Journal of the Indian Medical Association

VOL. XVII, No. 10 CALCUTTA JULY, 1948

ON THE CONTROL AND PREVENTION OF ENDEMIC CHOLERA IN THE RURAL AREAS OF BENGAL

S. C. SEAL, M.B., D.P.H., F.A.P.H.A.,

(Assistant Professor of Epidemiology, All-India Institute of Hygiene & Public Health, Calcutta)

In a previous communication the author (1946) briefly described 24 small outbreaks of cholera, which he had studied in the Singur Health Centre Area during 1944-45. The actual measures taken and the results achieved were also discussed. From the experience thus gained, some suggestions on newer lines have been made in the present communication for the control and prevention of the endemic cholera of rural Bengal.

(A) SHORT TERM OF TEMPORARY MEASURES

The measures adopted in the outbreaks described in the previous paper fall under this category in which they are mainly designed to combat the outbreaks while in force. These may be classified under 10 heads namely, (1) Early notification; (2) arrangement for immediate field visit; (3) giving relief to the patients; (4) arrangement for isolation and hospitalization; (5) disinfection; (6) instruction for the safety of the individual, family and community; (7) drug prophylaxis; (8) immunisation; (9) investigation, and (10) stoppage of control measures. Remarks about certain items only will be made here.

1. *Early notification*—The Village Committee or the chowkidar through the Village Committee and the practising physician should assume responsibility for reporting all communicable diseases, made locally notifiable, to the Resident Medical Officer of Health. For this purpose these agencies should be supplied with the "Infectious Disease Reporting Cards" and the physicians remunerated (As. 8/- to Re. 1/- each time) for prompt reporting. Better still, is the scheme advocated by Lal (1946), in which every village will have two paid polytechnic agents, a man and a woman, who will assume this responsibility as one of their essential duties. The Government may also consider the question of introduction of legislation in this matter but the writer is not in its favour without the concurrence of the people concerned.

2. *Arrangement for immediate field visit*—The R.M.O.H. or the Sanitary Inspector should carry the following articles with him (*i*) Bleaching powder, (*ii*) Acid mixture, (*iii*) A stock of *Sulphaguanidine*, (*iv*) Anti-cholera vaccine with inoculation outfit, (*v*) Sample collecting outfit and (*vi*) Schedules for investigation and recording.

3 & 7. *Giving relief to the patients and drug prophylaxis*—Except when a patient is in the convalescent stage treatment with sulphaguanidine should be started immediately according to the following method of administration. Initial dose—3 grammes (powdered) followed by 3 or 2 grammes every 4 hours, or more frequently in very acute cases, (to repeat if the drug is vomited out) till the number of stool is reduced to two or less per day, and then one gramme every 6 hours for the next 24 hours. A higher initial or follow-up doses are rarely necessary. In children below 12 years the doses are to be reduced proportionately. The effect is marked within 24 hours in early cases, within 48 hours in moderately severe cases and within 72 hours in very severe cases. *Additional treatment*—Sufficient fluid in the form of *dab* water and sodibicarb-glucose solution; an alkaline mixture is also helpful. Only in the advanced cases supplementation with I.V. saline and glucose may be necessary. The advantage in a rural outbreak is that once you are in the field most of the fresh cases are available early for treatment.

Drug prophylaxis—(a) DISTRIBUTION OF ACID MIXTURE—This is a mixture of acid sulph. aromat 3 parts and Spt. chloroform 1 part. For persons above 15 years the dose is 20 minims in an ounce of water twice a day. For persons aged 15 years and less the dose is equivalent to the age in years. This is easy for the villagers to remember. This mixture should be administered to all contacts irrespective of age and sex and sufficient stock left in the house with the necessary instructions for its future use.

(b) SULPHAGUANIDINE FOR SUSPICIOUS CASES—An extra stock of sulphaguanidine in one gramme packets may be left in the affected houses with instructions to use it as soon as any of the contacts show some suspicious symptoms. This procedure has been proved to be very effective in aborting all early cases.

4. *Arrangement for isolation and hospitalisation*—The question of isolation and nursing of patients in a rural outbreak is a problem. In a spreading outbreak a temporary shed may be built or if available utilised as a camp hospital or even mobile camps may be used as a temporary hospital where the cases may be removed for isolation and treatment.

8. *Anti-cholera inoculation*—The writer found it a wise policy to avoid inoculation of the members of the affected family for at least 3 days for, there is a danger of its efficacy being doubted by the ignorant villager when some of the members inoculated in the incubation stage come down with symptoms. In the hands of the author, administration of the acid mixture and sulphaguanidine along with disinfection and other measures has been found quite effective as prophylaxis for the members of the affected family.

(B) Long-term or Permanent Measures

Since the problem of endemicity of cholera in Bengal has yet remained unsolved an investigation into the local circumstances and factors which operate in causing repeated outbreaks is a pre-requisite for planning effective permanent measures. The latter may be described under 7 heads, *viz.,* (1) Notification, (2) Facilities for investigation and adoption of temporary measures, (3) Isolation and quarantine, (4) Immunisation, (5) Environmental sanitation, (6) Special measures for *melas* and festivals or pilgrim centres and (7) community education. In this section, also, the remarks will be confined to certain measures only.

2. *Facilities for investigation and adoption of temporary measures*—The author's specific suggestion in this conection is that a "Special Epidemic Control Unit" in charge of a sub-division having two sections, *viz.,* (1) Field and (2) Laboratory, should be established for a term of 10 years at the first instance. The former will consist of one epidemiologist, two sanitary inspectors, two medicine carriers, two sweepers and one peon, and in the latter—one bacteriologist *cum* entomologist, two laboratory assistants, one media-maker and two sweepers. The estimated annual expenditure will be about Rs. 20,000/- equivalent to 5 pies (*i.e.,* less than ½ anna) per capita taking 800,000 as the average population of a Sub-division. The proposed unit will take care of the infectious diseases prevalent in the Sub-division and carry out the necessary investigations. One of the duties will be to keep continuous records of events associated with communicable diseases occurring year to year within its jurisdiction and these should be utilized for *forecasting* epidemics and for taking early measures to abort their occurrence. The unit may offer diagnostic service to the physicians of the area, and if a chemist is also employed, water, food and drugs may be analysed, as in the public health administration laboratory. It may also assist in organising the sanitation of local *melas* and festivals or pilgrim centres.

Improvement of communication is, however, an essential preliminary for the successful operation of the above unit.

3. *Isolation and quarantine*—Segregation is really a difficult problem in rural areas. The writer likes to suggest the following plan for trial in the rural areas: Every village may be induced to have a "Segregation Cottage" built for the purpose of isolating the first case of infectious disease in the village, where isolation at home is not possible. Some members of the family will also be accommodated there to take care of the patient while certain volunteers from the Village Committee, who have received some training on the care and handling of an infectious disease case and have recently received the necessary protective inoculation may also be on duty. The management will be by the Village Committee under the guidance of the R.M.O.H. The patient will have the option of being attended by any private practitioner, but the R.M.O.H, being finally responsible for the prevention of spread of the disease, will act in the supervisory capacity and will take such actions as may be necessary for the purpose. The organisation of the community effort is an essential pre-requisite for the successful execution of this plan.

A difficulty may, however, arise in case of an explosive type of outbreak though not very common in the endemic area. It is on such occasions that the services of the "Special Epidemic Control Unit", suggested above, will be found particularly useful.

4. *Immunisation*—Against cholera, immunisation by means of anti-cholera vaccine is a temporary measure. Its value during an epidemic is now recognized but the protection afforded being of short duration (less than a year) it is difficult to prevent recurrence of outbreak without subjecting the people to yearly revaccination. This is not a feasible proposition. On the other hand, in many places cholera is mostly imported. Thus, if the local authorities introduce compulsory vaccination (by legislation or otherwise) as an essential pre-requisite at least 7 days prior to the departure for attending a *mela* or religious congregation, and yearly revaccinations of those people who regularly visit the trading centres and industrial areas, the importation of cases will be greatly reduced.

The difficulty may particularly arise with the question of revaccination on account of the local and general reactions. To avoid these reactions and to popularise its use the author would prefer revaccination with 1/10th c.c. of the vaccine given intradermally to 1 c.c. hypodermically as a recall dose. According to his field experience the procedure suggested does not give rise to any appreciable reaction while the response to immunity is as good as when a full dose of one c.c. is given.* A large scale field trial of this method is therefore suggested.

6. *Special measures for melas and festival or pilgrim centres*—Some permanent sanitary arrange-

---

Panja and Das (1947) working independently on a small sample found evidence in support of this procedure. While, however, they want to replace the usual method of primary cholera inoculation with this method the writer proposes to use it for re-vaccination purposes only.

ment should be made for the perennial pilgrim centres. For small *melas* or festival centres of short duration the local health authorities should be made responsible for sanitation. In certain instances, however, they may have the assistance of the suggested "Epidemic Control Unit", while for bigger gatherings the District or the Provincial Health authorities should, by timely planning, mobilise the necessary force.

7. *Community Education*—The advice for or enforcement of reporting, isolation, quarantine, disinfection, protection of water, food and milk supplies etc., *all depend upon the public understanding and acceptance of the responsibility or the regulatory authority of the Government and of their own share in the matter.* As a matter of fact, *a properly educated* community needs no enforcement of regulation for the control of infectious diseases. Education is therefore essential for the promotion of any programme of control or prevention on a permanent basis through service to the individual or community. Thus, like health teaching as a systematic part of *school life* this should be introduced among the general public as a systematic part *of community* life through the various known processes namely, adult education, physical culture, regular health talks in the community centres, public health pamphlets, monthly bulletins and annual reports of the local health conditions, health information through newspapers, periodic health exhibitions and cultural demonstrations, arrangement of public shows including dramas and cinemas, etc. It should, however, be strongly emphasized that bands of *properly-trained* personnel with socialistic outlook are essential for the success of the community education or for that matter, the practice of socialised medicine in the community.

Summary

The three important new features in the methods of control and prevention of cholera in the rural areas of Bengal are (1) The method of anti-cholera revaccination by intracutaneous inoculation of one-tenth c.c. of the usual dose. (2) A "Segregation Cottage" for every village, built and run on voluntary basis. (3) A "Special Epidemic Control Unit" consisting of a field and a laboratory section for each Sub-Division of Bengal. To provide service facilities and to increase efficiency, communication in the rural areas should be improved.

References

Lal, R. B.—Philosophy of Public Health—*Science & Culture,* **11**:489, 1945-46.

Panja, G. and Das, N. N.—Immunity after intradermal inoculation of cholera vaccine. *Indian J. M. Research,* **35**:1, 1947.

Seal, S. C.—A note on cholera outbreaks (1944-45) in the Singur Health Centre Area, Bengal, with special reference to control measures.—*Indian M. Gaz.,* **81**:321, 1946.

SOME ASPECTS OF FILARIASIS

S. SANKARARAMAN, M.B.B.S.
Cuddalore

The object of this paper is to place before my readers some of my observations on my place, Cuddalore, Old Town, which is an endemic area for filarial affection and invite further discussion and observations on this disease, which, though not a serious affection causing a higher rate of mortality than many other diseases, causes a lot of loss of working hours.

Etiology

The original conception that this disease is coastal in its distribution is not founded on facts. Though my place is a coastal district, as also Calicut, another endemic area, and some parts of Madras which were endemic some fifty years back, the prevalence in inland towns as Tirukoilur, Conjeevaram, Kumbakonam and Srirangam, which also show a great degree of endemicity, gives one the fact that other factors and not the coastal position of a town are responsible for the endemicity of this affection.

My town gave me ample facility for observation. When I started practice at Cuddalore, there was no protected water supply or drainage system in the place, and the mosquito trouble was acute. After some time, protected water supply was introduced by the installation of street taps and some streets had open drains while many had not. Anti-mosquito measures were adopted after a few more years and I give below my observations, which clearly go to show that the *Culex fatigens* is the source of endemicity and those houses which enjoyed protected water supply and proper drainage facility began to show less and less incidence of this disease. So the prevention of endemicity of this disease is best achieved by providing effective drainage, closing up of unwanted wells and cess-pools and effective anti-mosquito measures.

Another idea most commonly prevalent is that the white man is not susceptible to this infection. The recent war has shown that American soldiers had developed this infection in common with the coloured population among whom they camped and the problem of filariasis in servicemen has already been commented upon by many American doctors.

The microfilariae are non-pathogenic for man and can be transferred directly to an uninfected individual without danger of setting up an infection. These larval forms must go through a proper mosquito medium before they are pathogenic for man. When the proper mosquito vector, of which there are several species, obtains blood from an infected person the microfilariae are drawn into the stomach, begin their development, penetrate the walls and enter the body cavity. As the infected mosquito bites, she deposits

a small drop of salivary fluid on the skin containing a few larvae, which penetrate. No further trace of the larvae is possible until they are recognised as adult worms in the lymphatic channel The adult worms then become sexually mature, fertilisation occurs by direct contact of the sexes, and the gravid female exudes microfilariae. Hence the adult worms cannot reproduce themselves in human host, and so the filarial patient has a natural cure if he is removed from an endemic area, thus preventing the possibility of increasing the filaria in his system. This factor is responsible for the spontaneous disappearance of filaria in America where it was introduced by the slaves from West Africa, as also in Australia, where labourers from Central Pacific islands brought the infection.

The influence of protected water supply, drainage and anti-mosquito measures on incidence of filariasis is revealed in the following statistics:

Before 1931—(No drainage and no protected water supply—10·5 per cent.

1931-1936—(Protected water supply)—With drainage 2 per cent. Without drainage 3 per cent.

1936-1941—(Protected water supply and anti-mosquito measures)—With drainage 0·6 per cent. Without drainage 2·6 per cent.

1941-1946—(Protected water supply and anti-mosquito measures)—With drainage 0·5 per cent. Without drainage 2·2 per cent.

Whether the symptoms of early filariasis are allergic or due to inflammation by secondary organisms is a point worth examining:

(1) In many cases there is lymphangitis without associated fever or malaise, the lymphangitis disappearing after three or four days.

(2) Many patients develop several attacks of lymphangitis extending over months.

(3) You may find enlarged bizarrely placed lymph nodes at the tip of the ileum, in the mid-arm frequently and in the region of the teres and serratus muscles. This type of gland is unusual in the bacterial lymphangitis.

(4) Funiculitis and epididymitis develop with pain and swelling of the cord or epididymis. There is enlargement which subsides in a few days during the first attack.

These facts suggest an allergic reaction.

But, (1) pathological findings of the lymph nodes in the acute stage of the disease are characterised by hyperplasia of the lymph follicles, eosinophilic infiltration, and œdema. In many cases, macrofilaria or microfilaria are evident.

(2) Examination of superficial lymphatic tissues which do not appear clinically involved reveals moderate eosinophilic infiltration of their walls with pink-stained edematous fluid within the lumen.

(3) Many cases begin with hyperpyrexia and lymphangitis.

(4) Some cases which have been quiescent for a number of years suddenly get an attack of fatal filarial septicæmia.

Hence it is a fact that the symptoms of early filariasis are partly allergic and partly due to inflammatory reaction. Both the factors are present.

Filarial Septicaemia—It is my observation that a patient having repeated attacks of filarial fever never gets alarmed over it. As soon as the fever comes on, he takes a good purgative, vomits often and takes only sips of fluid or barley water and he is all right after three days. But patients who are free from attacks of fever for a number of years, when they develop an attack of fever, are sure to go into a septicæmic stage. The earliest interval was a period of 7 years and the longest was a case free from fever for 30 years. All these patients developed filarial septicæmia. Temperature ranging between 103° and 104° F., stupor, the patient cannot be roused, hiccough, and petechial hæmorrhages over the extremities. They remain in the same state from 10 to 15 days and ultimately die. I have tried injections of Solusepticine intravenous, intravenous glucose, intravenous glucose-saline, anti-streptococcal serum, sulphanilamide group of drugs, and all available remedies but invariably they all failed, and the patients succumbed in the end. This has to be taken as a separate clinical entity.

Treatment

Injections of pentavalent group of antimony certainly has some effect, as also arsenic. The combination of arsenic and antimony offers a better line of treatment. The adult worm is more susceptible to these drugs than the microfilaria. The adult worm usually dies within three weeks of treatment, and the microfilaria gradually disappears if the patient is not exposed to re-infection. Many of my patients who are transferred from the place, *i.e.*, who change from the endemic area, are free till to-day.

Efficacy of the various drugs is given hereunder (*vide* Table): Some cases of status asthmaticus are not relieved by adrenalin or ephedrine, or by both,

Table—Showing Analysis of Results with Different Drugs

Drugs	*Fever-free for 1 year*	*Fever-free for 3 years*	*Fever-free for 5 years*	*Fever-free for over 5 years*
Antimony	60%	15	nil	nil.
Vaccines	12·5%	nil.	nil.	nil.
Vaccines in As. solutions	60%	20%	nil.	nil.
Arsenic full course	60%	20%	nil.	nil.
Arsenic and pentavalent antimony	78%	35%	5%	nil.
Arsenic at the height of fever followed by another injection of arsenic and a course of pentavalent antimony	100%	62%	24%	nil.

but show a marked relief to an intravenous injection of N.A.B. 0·3 gm. On this analogy and since the early attack of filariasis is allergic, I have been giving an intravenous injection of N.A.B. 0·3 gm, during the height of the fever, i.e. within a few hours of the onset. The temperature comes to normal within 12 hours and the patient is relieved of lymphangitis. I follow it up with another dose of N.A.B. 0·45 gm. in three days and then continue pentavalent antimony—10 injections. This line of treatment shows a freedom from further attacks much greater than treatment with other preparations. The use of filarial vaccine is next to useless and the proprietary remedies containing staphylostrepto and typhoid bacilli in arsenical solution act only because of their arsenical content. Ayurveda mentions that the extract of Yerunchi is a specific for this filarial complaint. The fruits of this tree when they fall to the ground, attach themselves to its trunk. Mention of this tree is made by H.H. Sankara as an analogy for his thesis on monism, but like the soma plant, this tree has not been found. I have asked many of my friends and none has been able to locate the habitat of such a tree. Probably when found, it may be a find like the Chinese ephedrine.

EFFECT OF PREGNANCY URINE ON BARBUS STIGMA (DAY)

R. P. VARMA, M.SC. & S. K. NAGAR M.SC.,
Department of Zoology Agra College, Agra

While reading the literature on the gonadotropic preparation of the anterior pituitary hormone from the urine of pregnant women, and Friedman's work on the ovulation in virgin rabbits following the injections of pregnancy urine along with Aschheim-Zondek test for pregnancy, it was decided to study the effect of pregnancy urine on fish.

The type Barbus stigma for the present work has been selected for the following reasons:—

(*a*) Being a common fish it is almost every where present all over India. (*b*) It is a hardy fish and very well survives in ordinary home aquaria even in a small bowl. (*c*) It is not a cannibal and therefore can be stocked easily. (*d*) It develops a nuptial lateral stripe of beautiful red colour during the breeding season and therefore most suited to mark the gonadotropic effect even by external examination.

A brief account of the work hitherto done by the authors is given in the following tables:—

TABLE I—SHOWING ANALYSIS OF EFFECTS ON BARBUS STIGMA WITH PREGNANCY URINE (1 IN 4000 C.C. OF WATER)

Date	*Quantity of urine used in c.c.*	*Kind of urine used*	*Time of adding urine*	RESULTS		*Remarks*
				Colour change	*Gonadal change*	
9-8-47	20	Full term pregnancy Sp. Gr. normal	12-45 P.M.	Nil after 24 hrs.	Not seen after 24 hrs.	Two groups of fishes A and B used
10-8-47 A group	20	do	12-45 P.M.	Nil after 24 hrs.	Gonads slightly enlarged but not appreciably from the normal control	A Group was subsequently kept in the same quantity of urine till 22-8-47
10-8-47 B group	30	do	12-45 P.M.	No change after 24 hrs.	Gonads (ovaries) appreciably enlarged. Eggs more numerous	
11-8-47 B group	35	do	12-45 P.M.	No colour change after 24 hrs.	Gonads as above	
12-8-47 B group	70 (By mistake)	do	12-50 P.M.	Bright red lateral stripes were developed but the fishes died on night 12/13th Aug. 47.	Gonad abnormally distended. Ovaries were full of eggs. Testes were much enlarged than in the control	
14-8-47 to 20-8-47				No urine was available.		

TABLE I (*Continued*)

Date	*Quantity of urine used in c.c.*	*Kind of urine used*	*Time of adding urine*	RESULTS		*Remarks*
				Colour change	*Gonadal change*	
20-8-47 A group	55	do	12-30 P.M.	No colour change. But one of the three fishes died at 2 P.M. on 21-8-47. It was left in the same medium. At 6 P.M. it was found that a beautiful red lateral stripe had appeared suggesting a post-mortem change not due to the pregnancy urine. Hence one of the control fishes was killed in Sodawater and left overnight but no stripes developed. It was then left in pregnancy urine but without any change.	Gonads (ovaries) were found abnormally developed and full of eggs than in the control. The number was about 8 times than in that of the control	
22-8-47 A group	60	Full term pregnancy	1 P.M.	No result after 24 hrs.	Gonads much enlarged. Testes were much more developed than in the male control. Ovaries similarly enlarged.	
23-8-47 A group	Repeated the above experiment.			No change after 24 hrs.		
24-8-47 A group	Gave rest to the Group A till 2·35 P.M. of 26th August 47.					
25-8-47 A group after rest.	60	Full term pregnancy	2-30 P.M.		Gonads much enlarged; the fish dissected was a female, ova were very numerous	
27-8-47 A group after rest.	60	do	12-20 P.M.	Colour was observed in the morning which intensified on renewal of urine and water. Stripes became as prominent as in specimens dead in pregnancy urine. All the specimens are now lively and active with prominent stripes	Gonads (ovaries) much enlarged, highly vascular.	It appears that periodically rest is essential to stop mortality

TABLE II—SHOWING ANALYSIS OF EFFECTS ON BARBUS STIGMA WITH NON-PREGNANCY URINE (1 IN 4000 C.C. OF WATER)

Date	*Quantity of urine used in c.c.*	*Kind of urine used*	*Time of adding urine*	RESULTS		*Remarks*
				Colour change	*Gonadal change*	
9-8-47	20	Normal female urine	12-45 P.M.	Nil after 24 hrs.	Nil after 24 hrs.	
10-8-47	30	do	12-45 P.M.	Nil after 48 hrs.	Nil after 48 hrs.	
11-8-47	35	do	1-0 P.M.	Nil after 72 hrs.	Nil after 72 hrs.	
12-8-47	60	do	1-0 P.M.	— Nil after 96 hrs.	Nil after 96 hrs.	Fishes died
14-8-47	60	Urine from male	12-40 P.M.	Postmortem stripes developed on 17th by about 1 P.M.	Ovaries showed greater development	Fish died after 67 hrs. This fish had already been in pregnancy urine for 24 hrs. previously.
17-8-47	60 Taking a control fish	do.	1-15 P.M.	Nil	No change in gonads (testes)	Fish died after 51 hrs. No postmortem stripes developed even after 12 hrs. This confirms that postmortem stripes appear due to pregnancy urine.

TABLE III—SHOWING THE RESULTS ON CONTROL FISHES IN 4000 C.C. OF WATER

Date	Quantity of urine used	Kind of urine used	Time of adding urine	Results: Colour change	Results: Gondal change	Remarks
9-8-47	Nil	Nil	Nil	Nil	Nil	After 24 hrs. one fish was dissected
10-8-47	Nil	Nil	Nil	Nil	Nil	A second fish was dissected
11-8-47	Nil	Nil	Nil	Nil	Nil	A third fish was dissected
12-8-47 to 21-8-47	Control was not examined for economy of material					
21-8-47	Nil	Nil	Nil	Nil	Nil	This fish was killed in soda-water and left in water over night to see if post-mortem stripes appear. No change in colour. It was then left in pregnancy urine for over 8 hrs. but even then no change in colour.
22-8-47 to 24-8-47	No control fish was dissected for examination					
25-8-47	One control fish was dissected; it showed no change in its ovaries, another was left for 12 hrs. to see the development of post-mortem stripes. No change in colour took place					

CONCLUSIONS

As a result of the work briefly tabulated above the authors believe:—

(*i*) That the gonadotropic hormones in the pregnancy urine affects the gonads in Barbus stigma, in the same way as in mammals.

(*ii*) The postmortem nuptial stripe in the case of specimens kept in pregnancy urine was perhaps due to the continued action of pituitary or some other hormone after death. This is borne out by the fact that fish melanophores continue to react for a considerable time after separation from the body (Spaeth). The complete absence of these stripes in dead specimens from control and non-pregnancy urine confirms this fact.

(*iii*) The death in the case of specimens kept in pregnancy urine was perhaps due to the upsetting of metabolism caused by continued violent reaction of hormones in urine. This is supported by the fact that the periodical resting of the subjects stopped the mortality at the same time developing the nuptial stripes.

Further work on the subject is being carried out in detail.

XXV ALL-INDIA MEDICAL CONFERENCE, CALCUTTA

The 25th (Silver Jubilee) session of the All-India Medical Conference will be held in Calcutta this year during the Christmas week. All members of the Indian Medical Association of Calcutta and neighbouring branches are requested to be members of the Reception Committee on payment of Rs. 10/- Doctors who are not members of the I.M.A. may also be members of the Reception Committee on payment of the requisite fee of Rs. 20/- only.

In the Scientific section, a large number of scientific papers of high standard on medical and allied subjects will be read and discussed. Besides, there will be arranged symposia on important subjects in medicine, surgery and midwifery. Those who would like to read papers in the Scientific section are requested to contact the Secretary.

An Exhibition of medical, surgical and scientific interest will also be held in this connection. Details may be obtained from Secretary, Exhibition Sub-Committee.

For purposes of co-ordination, organisers of All-India conferences on medical subjects, to be held in Calcutta at the same time, are requested to get in touch with the Organising Secretary.

The office of the All-India Medical Conference is located at 67, Dharmatala Street, (Phone Cal. 1570).

SPECIAL ARTICLE

PUBLIC HEALTH IN THE MEDICAL CURRICULUM

J. K. BHATTACHARYA, B.SC., M.B., D.P.H. (CAL.), M.P.H. (JOHNS HOPKINS)
Officer-in-charge of Training, Singur Health Centre, Government of West Bengal.

Allen (1946) concludes his monograph "Medical education and the changing order" with the statement "Medicine is coming of age as a social science in the service of humanity." In the evolution of medicine, it has passed through the stages of magic, mysticism and empiricism to scientific medicine. Scientific medicine at first concerned itself with the maintenance of health, diagnosis and cure of diseases; later it embraced preventive medicine with emphasis on environmental hygiene and control of communicable diseases. Its aim now is, besides these already stated, promotion of health and rehabilitation, and is thus leading to Social Medicine. In the words of the Goodenough Committee (1944) social medicine signifies a conception of medicine "that regards the promotion of health as a primary duty of the doctor, that pays heed to man's social environment and heredity as they affect health, and that recognises that personal problems of health and sickness may have communal as well as individual aspects." Sir Wilson Jameson (1946) has said that the term 'social medicine' in Great Britain is really a synonym of public health. It is due to these developments in the scope and contents of public health and other related subjects that an urgent need has arisen for the revision of the teaching of medicine in general and public health in particular. In U.K. the Inter-Departmental Committee on Medical Schools submitted its report in 1944 and suggested a drastic overhaul of the medical curriculum which was last revised by the General Medical Council in 1936-37. The General Medical Council (1947) has adopted a new series of recommendations for the curriculum replacing those of 1936-37. Three major subjects have been created *viz.*, social medicine, paediatrics and psychiatry, "because of the developments that are necessary in the training provided in these subjects. There is more to be taught and learnt about them, and that a curriculum primarily designed to equip the potential general practitioner must give new prominence to them as branches of medicine."

It would be evident from the trend of medical education all over the world, that public health has acquired a new conception and special emphasis is to be given to the teaching of public health. The recommendations of the General Medical Council are as follow:—"Instruction should be given in the principles of preventive medicine including epidemiology; the influence of heredity and environment, including occupation, on health and disease; the principles of health education, and the functions of central and local authorities and voluntary organisations."

In India, the problem of medical education has been very thoroughly studied by the Health Survey and Development Committee (1944). They have given detailed instructions as to the ways and means of improving the scope and contents of public health specially in its application by the general practitioner. The teaching of public health in the medical schools has been very perfunctory. There were no teachers oriented with the new philosophy of public health. The teaching was entrusted to part-time teachers who were outside the fold of clinical medicine. As such the students looked on the teaching of Public Health as an academic exercise and in no way related to his clinical discipline. The general practitioners have not, therefore, been motivated towards the aim of scientific medicine, *viz.*, promotion of health with the correlated functions of public health in its broad sense. In the wake of our national freedom, an increasing number of social security measures are being undertaken by the State. The policy of providing adequate medical care has, in the case of our province, gone beyond the stage of discussion. A well thought out plan is awaiting implementation within a short time. One of the most essential factors in the successful working of the scheme is that the personnel engaged in the work (especially the rural medical officers) should be oriented with the philosophy of public health as a field of social service. Their work must be integrated with the activities of other social welfare programme in education, agriculture, etc. It is therefore, urgently necessary to train the prospective candidates now, in order to fit them properly in the social welfare organisations. The above is only a short term objective. In order to evolve the "Basic Doctor" of the future it is necessary to reorient the philosophy of medical education and to revise the curriculum specially in the fields of social medicine, psychiatry and paediatrics. A re-orientation in the scope of public health would envisage the teaching of social medicine on a functional basis as a social science.

The exact nature of the curriculum and the development of the activities are deatils to be worked-out by the authorities concerned. Emphasis must, however, be laid on the teaching of public health as an applied science both in the pre-clinical and clinical periods and closely integrated with physiology, pathology, microbiology, medicine, obstetrics, paediatrics and psychiatry. An equilibrium between the demands of medical sciences and the demands of clinical medicine has not yet been attained. But in the words of Allen (*loc. lit*), "the pressure of progress in the medical sciences has been so great that it has forced faculties of medicine to recognise that their first responsibility to medical students is to teach medical science (not the sciences of anatomy, chemistry or physiology as such), and in so doing to avoid overemphasizing any one basic medical science or including essentially extraneous material."

Integration of public health with the pre-clinical medical science will add to the student's interest and enthusiasm and it will tend to unify the educational process. This can be done without doing violence to the values of discipline in pure sciences, for, after all, science can be pure and at the same time deal with principles at the so-called applied levels. The Presidents of the G.M.C., Sir H. L. Eason (1947), states

that "It may perhaps be safe to assume that no course in human anatomy and human physiology is likely to leave the students without enlightenment on the factors concerned with the promotion and maintenance of mental and physical health and the fundamental importance of health and the prevention of disease which the committee specified as aspects of social medicine to which he should be introduced during the period of pre-clinical studies." Clinical integration with public health will be dependent on the importance given by the Professors to social, environmental and preventive factors. The workers in the departments of obstetrics and paediatrics are usually permeated with the philosophy of public health in its broad aspects. Effective integration with clinical medicine will have to be worked out on the philosophy that "Preventive Medicine is Medicine." Joint clinics, seminar instructions, and socio-economic, epidemiological investigations in the field are to be arranged. The recommendations of the General Medical Council during the clinical period are (*a*) to bring upto date the provision made in 1936 for instruction in the part of the subject then described as "Hygiene and Public Health"; and (*b*) to emphasise that throughout the period of clinical studies the attention of the student should be continuously directed to the social aspects of medicine by such means as the utilisation, for purposes of instruction, of public health and social welfare services, health centres, and ancillary workers in the medical field.

Implementation of the recommendations above clearly falls into two channels of activities. First what do we want to train the general practitioners in public health; and second, how do we train them? Before going into the details of the above questions, it may be stated that public health as social medicine can be properly taught only in a controlled community field where intensive studies are made of the population 'from the womb to the tomb". Grant (1948) in his lecture delivered at the International Conference of the Royal College of Physicians, London, in September, 1947, states: "In the absence of controlled community, the techniques of social therapy remain undeveloped, nor can the general practitioner practise social medicine until he has had opportunity as a clerk or intern to habituate himself with proven methods and techniques of social therapy." In the absence of such community practice fields, the social aspects of medicine can be emphasised by making socio-economical, environmental and epidemiological studies of patients admitted to the Hospital. The outpatients departments also offer suitable ground for such studies and health education procedures.

The first essential requirement is the organisation of a department of preventive and social medicine in each medical school. It should be properly staffed with sufficient number of adequately trained personnel. The administration of the community field of the school should rest with the department. Till the time when each school organises its community field, the department will work through the health department of the local bodies. The development of the technique of teaching public health must be left to the individual teacher because there is much room for experiment in this matter. To bring upto date the subject of Hygiene and Public Health is one of the difficult jobs not because of lack of materials but for 'how much to put in and to integrate with other subjects.' The lines of demarcation between the various medical sciences have become less distinct and an equilibrium can be reached on a re-orientation of all the pre-clinical and clinical medical sciences. The outline given below shows a general pattern of curriculum to be followed. The details should be worked out by the proper authorities.

Outline of Syllabus of Public Health for Medical Students.

1. An introduction to public health—dealing with the aims and scope of public health; nature and volume of problems concerned; historical development of public health, population, socio-economic factors.

These introductory lectures are to be given in the early part of the pre-clinical period.

2. Hygiene and Public Health.

(*a*) Epidemiology and Communicable Diseases—Basic understanding of health and disease—the nature of the latter, its extent and relationship to various factors—heredity, environment, occupation, social and economic factors. Basic concepts of infection and immunity. Methods of prevention and control (or more often lack of control) of common communicable diseases—Methods of investigation of common infectious diseases—clinical aspects, Diagnostic laboratory methods, social and environmental factors.

The epidemiology of a few selected epidemic diseases is to be taught in correlation with the courses in Bacteriology and Parasitology, and Medicine. Joint clinics are to be held in conjunction with the Department of Medicine specially in cases of Typhoid, Cholera, Venereal Diseases, Tuberculosis, etc. Field work on patients concerning the social and preventive aspects of medicine are to be carried out.

(*b*) Preventive Medicine—

i. Physiological Hygiene—Physiology and Bio-chemistry as applied to health problems.

The teaching should be correlated with the courses in Physiology and Bio-chemistry.

ii. Maternity and Child Hygiene.

The teaching is to be correlated with the courses in obstetrics and paediatrics.

iii. School Hygiene.

iv. Industrial Hygiene—occupational diseases.

The course is to be given in correlation with physiology.

v. Mental Hygiene—Mental hygiene for the normal, prevention and amelioration of the results of mental disorder, promotion of mental hygiene in the community, legal responsibilities, custodial care.

The course is to be integrated with the course in Psychiatry.

vi. Food and Nutrition—public health aspects, malnutrition, deficiency diseases.

The course should be integrated with Physiology and Medicine.

(*c*) *Sanitation*—

(*i*) Water—sources, purification, distribution—urban and rural. Standards of drinking water.

The course is to be given in correlation with Bacteriology.

(*ii*) Disposal of refuse and excreta—urban, rural.

The course is to be given in correlation with Bacteriology.

(*iii*) Disinfection—The course is to be given in correlation with Bacteriology.

(*iv*) Insects and Disinfestation—The course is to be given in correlation with Entomology.

(*v*) Principles of Housing—urban, rural.

(*d*) *Health Education—Different Health Education Procedures*—

3. Public Health Administration—The purpose is to acquaint the student with the organised forces for the advancement of public health. History of development of public health. International health organisations—central, provincial and local health authorities. Voluntary organisations. Medical care programme—health laws. The principles involved in public health laws. The principles involved in public health administrative practice in relation to the general practitioner should be stressed. Socio-economic condition in relation to medical practice is to be discussed.

4. Medical statistics—It is designed to acquaint the students with the elements of statistical reasoning and their application to medical problems. Lectures and practical exercises in the methods of collection and analysis of data, errors to be avoided in interpreting such data, elementary treatment of sampling variations and analysis of frequency distribution.

Vital Statistics—

A course in the quantitative methods in medicine is now a "required" one in all the progressive medical schools. Its inclusion in public health is due to the fact that the morbidity and mortality data with which medical men deal are grouped under vital statistics.

Course in statistics can be given in the pre-clinical years and the teaching may be correlated with other sciences as well. In this connection I would like to refer to Bradford Hills article "Statistics in the Medical Curriculum." (1947).

The medical student before he completes his course should also be made familiar with the simple vital statistical rates—for example the neo-natal rate, infant mortality and maternal mortality rates, the crude death rate and its limitations. Those figures no doubt lie more in the province of the public health worker, but they are now cheerfully bandied about in the daily press and a professionally trained man or women should have a sound knowledge of their derivation and meaning.

If statistics as a valuable method of research is to be given its proper place, Hill says "the medical worker and his readers must be at least on speaking terms with the elements of statistical reasoning and methods of analysis, and thus be able themselves, to weigh numerical evidence justly in the balance. In short I should replace my quering title 'Statistics in the Medical curriculum?' by 'what statistics in the medical curriculum?' (though I am well aware that some clinical teachers will prefer to read it as 'What Statistics in the medical curriculum?'"

The total period required for teaching a syllabus as above will be about 200 hours inclusive of didactic and the practical. As the teaching will be integrated with other subjects the hours will be spread over all years of medical study. The introductory lectures are to be given in the first year of the course. The course in the 2nd, 3rd and 4th years would consist of lectures and tutorial periods in conjunction with the other departments. In the final year field visits, demonstrations and other practical exercises can be arranged.

Summary

1. Tha need for a revision of public health in the medical curriculum is emphasised. Public health is to be taught as a social science and is to be integrated with both pre-clinical and clinical teaching.

2. The provision of a community practice field for each medical school is stressed.

3. Establishment of a department of preventive and social medicine in each medical school is an essential requirement.

4. Outlines of a syllabus in public health is given.

Acknowledgment

I would express my grateful thanks to Major-General A. C. Chatterjee, Director of Health Services, West Bengal and to Capt. J. D. Sinha, Deputy Director of Health Services, for their kind encouragement and permission to publish the paper. I would also place on record my sincere thanks to Dr. J. B. Grant, former Director, and to Lt.-Col. C. K. Lakshmanan, Director, All-India Institute of Hygiene and Public Health, Calcutta, for their kind encouragement.

References

Allen Raymond B.—Medical Education and the changing order, 1946, The commonwealth Fund, New York.

Report of the Inter-Departmental Committee on Medical Schools 1944 (Goodenough Committee) HMSO, London.

Jameson, Sir Wilson—"Replanning Britain's Health Services" *Canad J. Pub. Health*, **37**:5, 1946.

Report of the Inter-Departmental Committee on Medical Schools, 1944—*op. cit.*

Recommendation to bodies and schools (1947) by General Medical Council—Constable, London.

Health Survey and Development Committee 1944 (Bhore Committee) Government of India.

Eason, Sir H. L.—The General Medical Council and Medical Education" *Brit. M. J.*, **2**: 1947.

Grant, J. B.—"Social Medicine in the curriculum", *Brit. M. J.*, **1**: 1948.

Hill, A. Bradford—"Statistics in the Medical Curriculum", *Brit. M. J.*, **2**, Sept. 6, 1947.

JOURNAL OF THE

INDIAN MEDICAL ASSOCIATION

CALCUTTA, JULY, 1948

BED REST IN PULMONARY TUBERCULOSIS

General rest in some form or other is more or less universally employed in the treatment of consumption all over the world at present. There is, however, no agreement as to the degree of rest to be enforced or its duration. Although Marcus Patterson's theory of auto-inoculation by absorption of tuberculo-toxin from the lesions by exercise or activity has very few enthusiastic supporters at present, yet opposing views are still held as to the beneficial effect of rest.

Some authorities believe that prolonged and strict bed rest by reducing the lung function produces anaerobic condition in and around the tuberculous lesions together with vascular stasis and diminished lymphatic flow and thus help in healing of the lesions by promoting fibrosis and lessening absorption of toxins. Others, however, think that general rest only helps in improving the 'systemic vitality and resistance' against the infection.

How the conception of bed rest in the treatment has changed from time to time has been made the subject of an interesting paper presented by R. S. Anderson[1] of Erie, Pennsylvania, at a symposium on Diseases of Chest, sponsored by the Laennec Society and the Pennsylvania Chapter of the American College of Chest Physicians, Philadelphia. He points out that rest and relaxation have played an occasional part coincidental to some other prescribed treatment in the management of a consumptive from the days of Hippocrates and Galen down to the pre-modern age. Such courses, as sending the patient for a sea voyage or a sojourn in the country or 'Thomas Sydenham's practice of keeping his phthisical patients in the saddle for as many hours each day as horse and rider could tolerate'—enforced rest on the patient by sheer force of circumstances.

The establishment of sanatoria for the treatment of consumption by Brehmen and Dettweiller in Germany and later by Trudeau in U.S.A. marked the beginning of an important era in the fight against tuberculosis. Although the real significance of rest in the treatment was better recognised, it was however, considered only "a valuable adjuvant capable of only refreshing the patient and tending to restore his vitality. Environmental conditions such as high hills, pine woods, scenic beauty and the 'out of door' life were more emphasised in the early days of sanatorium treatment. Relaxation in reclined chairs for specified hours alternating with out-door walks together with hyperalimentation constituted the daily routine of patients.

With the increasing use of collapse therapy the conception of rest again became confused; so that while some people are convinced that general and prolonged 24 hours' bed rest is important in spite of local collapse, others maintain that collapse therepy eliminated the need for prolonged bed rest.

That tuberculous cavities in the lungs can heal on bed rest alone is probably the experience of most phthisiologists. Fales and Beaudet[2] observed 66 per cent of cavity closure in two series of 237 cavities by bed rest alone, without resort to any form of collapse therapy. They, however, point out that rest in such cases means 24 hours bed rest under absolute control and supervision. The value of such rest in closing cavities has also been seen in many instances when dramatic improvement occurred in the pulmonary lesions of patients treated in Bradford frame for immobilising the spine in cases of pulmonary tuberculosis complicated with Pott's disease of spine.

It is common now to find that in most institutions for the treatment of consumptives absolute bed rest is enforced only so long as the patient is febrile or the lesions show definite signs of progression. In other cases, specially with collapse therapy, a partial rest of varying grade is usually the rule. It is true that in many institutions expediency of administration due to lack of nursing staff and insufficient funds weighs more heavily in deciding the degree of rest.

It is difficult to assess the value of such partial rest as compared with prolonged 24 hours bed rest with or without collapse therapy, due to lack of statistically significant data.

It is desirable, therefore, that more studies should be undertaken in comparable groups to find out the value of prolonged 24 hours bed rest as compared to partial rest.

1. Anderson—*Dis. Chest;* **15**:166, 1.

2. Fales and Beaudet—*Am. Rev. Tub.,* **30**:225, 1934.

PRESERVE MORE FOOD

Country wide efforts are being made to grow more food. Uncultivated lands are being reclaimed and new methods of agriculture are supplanting the old. While the possibilities of yield from fresh fields and pastures new are discussed and calculated, little attention is paid to save food from waste by decomposition and otherwise. Storage of food grains, preservation of vegetables and fruits, retardation of decomposition of animal food including milk and making good the loss of food value and vitamins caused by some of these processes of preservation are matters worth investigating. During the ration days, at one of the meetings of the Food Advisory Committee presided over by a member of the steel frame fame, a member, who was a medical man asked whether the agriculture department or any other department could suggest the best way of preventing the damage of wheat by weevils while in storage under Government supervision. The curt reply was it was none of the business of any Government department. It is notorious what a huge amount of food was allowed to be wasted voluntarily and involuntarily.

Of the cereals, the most important are rice and wheat. In those rice-eating provinces where people live hand to mouth, the question of storage does not arise; but where paddy is grown in excess of the immediate needs of the people, the peasants and middle men should be told the best way of storing it. Paddy can be stored in properly constructed granaries for more than a year without deterioration. Highly milled rice, stored in suitable receptacles and kept free from weevils will remain in good condition for a year or more. Husked rice usually becomes rancid within two or three months or less. It may be pointed out here that highly milled rice is poor in respect of vitamin B content. The dealers and consumers of wheat and other cereals and pulses should be made acquainted with such suitable methods of storage as will ensure their fitness for human use for at least a year. It is well known how rapidly some of these food grains become mouldy or are attacked by weevils resulting in waste.

Milk and milk products as ordinarily exposed for sale rapidly become unfit for human consumption and yet they find ready buyers. They become culture media of micro-organisms and their food value is reduced by gross adulteration. Luckily, however, milk can be preserved in many ways and adulterations partially prevented. It can be turned into evaporated or unsweetened condensed milk; vitamin C which is destroyed in the process can be made good by adding citrous fruits to the diet. Other forms are sweetened condensed milk or dried or powdered milk. "All these kinds of milk are produced in the whole or skimmed form" but no type of skimmed milk is suited to form the food of infants. Nevertheless, it should be noted that "skimmed milk reconstituted from powder can justifiably be recommended for the infants of very poor mothers, if it is the case of cheap skimmed milk or no milk at all"; this diet should be supplemented by cod liver oil or one of its substitute easily available in the market. Cheese has keeping qualities but it has not become popular yet! *Khowa,* a form of milk hardened by boiling, can be preserved for a short time, but it can be made to last longer if manufactured under hygienic conditions. Other cheap methods of preserving milk should be found and popularised in dairies. A great advance can be made if co-operative organisations under Government supervision undertake to preserve and sell milk products at reasonable prices. This industry should flourish in the rural areas as pasture lands are easily available and cattle can be maintained under hygienic conditions.

For the preservation of vegetables, fruit and animal food, a wide spread cold storage service should be organised. Some vegetables can be preserved by dehydration as was done during the last war. Of these potatoes are most important. These are a rich source of starch and should fill the gap when rice and wheat are scarce. In the United Kingdom in making dietary surveys during the war years it was common to find that adolescents and heavy manual workers ate as much as 1¼ lb. bread and 1 lb. of potatoes a day. Tinned meat and fish were imported and used in large quantities during the last war and before. They can be similarly preserved in this country and, if reasonably priced, should become popular with non-vegetarians. Fruit canning should be encouraged to become one of the most important cottage industries. Indigenous methods of preserving fruit and fruit juices should be investigated and improved upon. To mention only one, in most provinces when mangoes ripen the juice is expressed on plates to be dried in the sun; this will have a better keeping quality if made under hygienic conditions.

Food saved from being wasted will be food gained. To prevent waste and deterioration from keeping should be impressed on every householder. He should be made acquainted with inexpensive methods of preservation which are practicable at home. The Government should assist in organising more elaborate methods which will go a long way towards economy.

CURRENT TOPICS

I

THE MEDICAL AND PUBLIC HEALTH ASPECTS OF VENEREAL DISEASES IN INDIA

The following is from the speech delivered by Dr. R. V. Rajam at the first conference of Association of Dermatologists and Venereologists held in Bombay during the Christmas week, 1947:—

I offer my congratulations to the medical profession of Bombay for having taken the initiative in forming an association of this kind for the specific objects set forth in the articles of the association. Venereology and to a lesser extent Dermatology have long been regarded by the medical profession as the 'Cinderella' of the specialities because they are supposed to be so simple that any body can practise with impunity. The attitude of the average medical man towards these specialities is mainly therapeutic of the hit and miss variety. In Dermatology the conception of the general medical profession is aptly expressed in the couplet 'You can always use calamine lotion if of the diagnosis you have no notion'. In the practice of Venereology, the apparent simplicity and the effectiveness of the drugs have led to a casual approach to the problems connected with them in which proper diagnosis and the clinical study of the patient plays a minor and secondary role to therapeutics. In no other branch of medicine, the quack both inside and outside the profession finds such fertile and profitable field for exploitation as in these specialities. The association of Dermatology and Syphilology dates back to the pre-Wassermann days when syphilis was clubbed with diseases of the skin because of the most obvious manifestations of the latter and gonorrhœa got submerged in Urology. With the ever widening knowledge in the domain of these two specialities and the necessity for a different approach to these branches of practice, a friendly judicial separation is taking place in many of the advanced countries of the West. But in our country, the two specialities will have to function as one for some time to come due to the paucity of medical personnel and trained specialists. Moynihan's profound observation that a Surgeon is a Physician who is doomed to the practice of surgery applies with equal force to the specialities of Dermatology and Venereology. Otherwise the damaging definition of a specialist who knows more and more about less and less will seem justified. A wide clinical knowledge of medicine, an objective sympathetic attitude and an epidemiological outlook are pre-requisites for efficient and successful practice in these branches. With these preliminary remarks I shall proceed with the subject which I have chosen for my address to-day, *i.e.*, "The Medical and Public Health aspects of Venereal Diseases in India".

In our country where accurate statistics of even the more respectable, communicable diseases like Malaria and Tuberculosis are lacking it is not surprising that in the case of venereal diseases, with the social and moral stigma attached to them any accurate estimation of the prevalence among the population should be non-existent. The fact that venereal diseases find no mention either in the Annual Reports of the Public Health Commissioner of the Government of India or in those of the Provincial Directors of Public Health is a revealing commentary on the attitude of those who had been responsible for the health of this country. The only available statistics, though meagre and unsatisfactory, relating to these diseases, are those which may be gleaned from the Annual Reports of the Working of the Civil Hospitals and Dispensaries of the various provinces.

Sir John Mogaw as a result of his investigations into the health aspect of village life in India in 1933, estimated that there are about 13 million cases of syphilis and gonorrhœa, of which 7¼ lakhs were treated in hospitals in one year. The average prevalence rate according to his estimate was 37·1 per thousand of the population. Though this figure is sufficiently high, I consider it is an underestimate for the post-war period in which we are living.

In the absence of any compiled statistics of even the hospital returns of venereal diseases for all-India within recent years, I can only give you some idea of the serious nature of the problem from figures for the city of Calcutta and those of the Indian Army. Taking the two principal and major diseases, syphilis and gonorrhœa, nearly 300,000 patients with these diseases had attended one or the other Government, state-aided, municipal and local board medical institutions in the presidency during the year 1945 in the ratio of 1·5 of syphilis to 1 of gonorrhœa. This gives an annual hospital attendance rate of 600 per 100,000 of the population which is probably one of the highest in the world. The annual hospital rate for the city of Madras for syphilis and gonorrhœa is about 2000 per 100,000, which is four times the provincial rate. From a comparison of two other chronic communicable diseases, tuberculosis and leprosy, it would appear from the hospital returns that syphilis is five times more prevalent than tuberculosis and 6½ times more than leprosy. It is my cautious statistical surmise which receives a certain measure of confirmation from Sir John Megaw's findings in 1933, that for every twenty persons suffering from either syphilis or gonorrhœa, only one person seeks treatment in the hospital and the rest either get no treatment or are treated by quacks or by private medical practitioners. Hence an approximation to the real prevalence rate of the two principal diseases among the general population in Madras, may easily be twenty times the hospital rate. This would mean that about six million people of either sex are suffering from the one or the other of these two diseases, in a population of 50 million. From the figures worked out in the venereal clinic at Madras, it would appear that five out of every eight patients seeking treatment for either syphilis or gonorrhœa, are in an infectious state. Applying this ratio to the probable prevalence rate among the population nearly 3½ million of either sex are harbouring the disease in a communicable state and are a source of danger to the uninfected population. The probable prevalence rate for the province worked out on a percentage basis would be about 12 per cent, 7 per cent of syphilis and 5 per cent of gonorrhœa.

During the year ending 31st December 1944, 30,602 new cases of venereal diseases were treated in the several venereal clinics in the city of Calcutta, of which on the analogy of the ratio of syphilis and gonorrhœa to the total venereal diseases worked out from the Madras returns, at least 75 per cent of the new admissions in Calcutta should have been those of syphilis and gonorrhœa. The high admission rate of about 27,000 Indian troops treated for syphilis and gonorrhœa, in the military treatment centres of this country for the nine months ending October 1945, is an index of the widespread prevalence of these diseases among the civil population. It is said that Punjab among the provinces in India has the lowest venereal disease rates. If it is true, the reason for it is not obvious. Can it be a question of higher standards of sex behaviour or relative immunity to infection, though it is recognised that sexual activity and soldierly qualities usually go hand in hand.

War has been the traditional vanguard of venereal disease epidemics all over the world and India could not have escaped its consequences. Syphilis is generally considered a better indicator of the venereal disease status of a country than gonorrhœa. If the army ratio for Indian troops of 1·7 cases of syphilis to every 1 of gonorrhœa, is any indication of the relative prevalence of these diseases among the civil population, it would follow that syphilis is more prevalent than gonorrhœa and this is borne out from the Madras hospital returns. During the war years, 1940-45, the increase in the syphilis rate has been particularly marked in the city of Madras and in many of the urban areas of the province, the indigenous spirochetes having been reinforced with Burmese, West African and European strains.

An editorial appeared last year in the *Indian Medical Gazette* on "Venereal diseases in India". The writer of the editorial, from certain serological surveys carried out on the hospital patients at Calcutta seems to think that the syphilis rate for Calcutta is under 5·3 per cent and that there has been no increase in the syphilis rate during the war years. While this estimate is of limited and questionable value for Calcutta and certainly cannot apply to the rest of India, his thesis that syphilis is a mild disease and does not thrive in India is open to serious challenge. He explains away his unproved assumption by stating that a high syphilis rate would not be compatible with the socio-economic system of the country in which every body of marriageable age is married and the existing high birth rate would be inconsistent with the widespread prevalence of syphilis. The comparative rarity of what he calls para-syphilis, *viz.*, G.P.I. and Tabes in India is also trotted out as a cause for the nonspread of this disease from towns to villages. If according to Col. Greval, syphilis is a mild and non-thriving disease in this country, he treats gonorrhœa in his editorial almost with contempt by stating that stricture, arthritis, and sterility are not in much evidence. The editorial is likely to leave an unfortunate impression in the readers' mind that all is well in our country, so far as venereal diseases are concerned. It appears to me that the statements in the editorial are based on a little statistics but much wishful thinking and it is regretted that such views should appear in the editorial columns of a responsible medical journal at a time when the country needs proper leadership and drive to improve the public health of the people. The establishment of tellural hospitals in the country is suggested by the same learned editor, where Europeans with non-tropical diseases including venereal diseases can be treated with sunshine, malarial therapy, blood transfusions etc.

As a clinician, who has been dealing with venereal diseases for the past two decades, I may be permitted to make some observations as an answer to Col. Greval's assumptions. In the first place, Col. Greval's estimate of about 5·3 per cent for syphilis incidence in Calcutta is not a negligible figure to be lightly brushed aside. It is difficult to believe that there has been no increase in syphilis in Calcutta during the war years, when it is to be remembered that Calcutta was the centre of a large mobile changing population, both civil and military, and with nearly 40,000 purveyors of pleasure, who were flaunting their wares unchecked and uncontrolled in the various haunts of the city. Taking the Calcutta hospital figures of 30,602 new cases of venereal diseases for the year 1944, and the estimated population of Calcutta as three million, the annual hospital rate works out as 1000 per 100,000 of the population of which syphilis and gonorrhœa would account for 750. The minimum prevalence rate for the city of Calcutta of the two principal venereal diseases may easily be 15,000 per 100,000 of the population. In the decade between 1935 and 1945, the hospital rates for syphilis alone per 100,000 of the population had nearly doubled in the city of Madras and in some of the larger districts of the province.

It is true the interaction between the spirochetes and the tissues of an Indian shows clinical differences from that between the spirochetes and those of the European. The excessive severity of the cutaneous and skeletal manifestations, the comparative infrequency of the late parenchymatous lesions of the central nervous system among Indians offer a striking contrast to the mildness of somatic syphilis and the greater incidence of late neurosyphilis in the European. In many ways syphilis in our midst among Indians, bears a close resemblance to the early outbreak of the disease in Europe during the 15th and 16th centuries. Three centuries of saturation of the European population with syphilis had to elapse for a subtle change to take place in the host parasite relationship. It is only in the 19th century that we find for the first time descriptions of Tabes and General Paralysis in the medical as well as in the lay literature of the period. The question of dermatropism *versus* neurotropism of the spirochetes is still one of the unsolved problems of Syphilology. The history of syphilis in Europe suggests that the original dermatropic virus of the 15th and 16th centuries, given time and a changing tissue response in the host to a progressive saturation has changed its tropism to the nervous system. The

change in the mode of life from the slow, feudal, predominantly agricultural civilization of the 15th and 16th centuries to the urbanised, industrialised, mechanistic civilization in Europe and America with its increased tension, accelerated tempo, hustle and speed may also be a contributory factor in the process of transformation of the spirochetes. The clinical evolution of syphilis in the modern, westernised American Negro is more and more approximating to that of the white man in America whereas, syphilis in the African Negro still continues to retain the predominant, cutaneous, and skeletal characteristics with little or no evidence of neuraxis involvement. It is true we are predominantly an agricultural country now, but the slogan of 'Industrialise or Perish' carries with it the risk of a progressive syphilisation of the population. The question of infectiousness and spread of the disease does not bear any relationship whatsoever to the incidence of late lesions of syphilis, which are usually a menace to the individual sufferer and not to the public health.

Syphilis in our midst is not wholly benign. It is a great destroyer of child life, both neonatal and antenatal, and it contributes its share to the prevalent high infantile mortality. A high birth rate may be quite compatible with a high syphilis rate among the population. It only means that more children are born in the unit of time than can be destroyed by syphilis.

In the Venereal Clinic at Madras, the hospital admissions for early congenital syphilis has registered a fourfold increase in the past decade and has kept pace with the increase of admissions for cases of early syphilis. An analysis of cases of early syphilis who attended the clinic during a ten year period, 1935 to 1945, showed that 3·8 per cent of early syphilis of less than two years duration were meningeal, meningovascular and vascular lesions of the nervous system. Thirty years ago when I was a student early neurosyphilis was one of the rarities of hospital practice. It would appear that in the Indian as in the American Negro, the spirochetes of syphilis tend to localise in the vascular system. In at least 50 per cent of admissions for disorders of the nervous system and about 15 per cent of admissions for diseases of the circulatory system in the several hospitals of Madras Presidency, it is my estimate that syphilis is the ætiological culprit. Though the late syphilitic lesions of the nervous system as observed in the Indian are predominantly meningovascular and vascular in type, their seriousness from the point of view of the individual sufferer and the necessity for prolonged hospital care cannot be minimised. Gonorrhœa seems to be less prevalent among Indians than syphilis as judged from the Army and Madras hospital returns: but the disease causes a great deal of chronic ill-health on either sex in the form of stricture, pelvic infections and disabling arthritis, among the ignorant, untreated and maltreated populations. During the year 1945, 5000 patients with stricture of the urethra had been treated in various institutions of the province.

Statistics apart, which some cynic classified as "lies, damn lies and statistics", venereal diseases are communicable diseases and according to modern cannons of public health should be treated as such. Among chronic communicable diseases next to Malaria, Venereal diseases will easily take the second place from the point of view of prevalence among the population. Though the immediate mortality of these diseases among adults may be negligible, their importance from the point of view of producing chronic ill-health, incapacitation and economic loss to the individual sufferer and the State cannot be overemphasised. 'To the physical havoc wrought by these diseases, and by the conditions in which they breed, must be added the social wreckage of twisted moral and ethical values, of warped and irreparably damaged lives'.

The problem of venereal diseases is indissolubly related to prostitution and sexual promiscuity. No country in the world has so far achieved any outstanding success in rooting out this ancient evil except probably Russia. Most of the provinces and states in India have introduced laws against commercialised prostitution, third party profiteers, traffickers in women and minor girls etc. But it is a moot point how far these laws are being enforced intelligently, persistently, and honestly in the various provinces. In Madras, the more blatant type of brothel prostitution has been largely suppressed in most of the urban areas but the evil has reappeared in an individualised, widely disseminate and clandestine form and part time clandestine prostitute far outnumbers her more commercialised sister. I really wonder whether this evil can ever disappear from human society unless profound socio-economic changes take place. We as medical men are concerned more with the medical and public health consequences of prostitution and sexual promiscuity. Hence the greatest emphasis should be placed on the tracing of these original sources of infection and bring them under treatment by persuasion if possible or by legal enforcement if necessary. Any further discussion of this problem in its legal, social, economic, educational and moral aspects will take me away from the main theme of my address.

A communicable disease can be controlled in four ways:—

1. Immunization.
2. Isolation.
3. Education of the public with respect to prevention.
4. Sterilization of the infected individual.

In the case of venereal diseases, immunization does not exist. Isolation and quarantine of the infected individuals are practical impossibilities. The education of the public in respect of prevention has only a limited value for civilian populations. There remains therefore for the control of venereal diseases, the fundamental public health principle of sterilization of the infected individual. In recognition of this principle, most of the European countries have instituted various public health measures for its control. It is recognised that the treatment of infected persons by modern scientific methods is the strongest weapon we have at our disposal. In the case of venereal diseases, treatment is prevention as it will reduce to the lowest

possible proportion the number of infection carriers in the community.

The credit for tackling the problem of venereal diseases control for the first time among civilized nations goes to the Scandinavian countries. The steady decline of venereal diseases in these countries during the inter-war period is now recognised as one of the classical public health achievements in the field of venereal diseases control and unsurpassed by any other country. 'Public health measures for the control of syphilis and gonorrhœa in all the Scandinavian countries, are based on the principle that these diseases are communicable and should be dealt with as such. The law requires the reporting of cases, obligates patients to receive treatment, gives health authorities the power to enforce medical care including hospitalization if necessary, penalises the knowing transmission of infection and authorises the finding and the bringing under control of all sources of infection and of all delinquent patients. The decline rate in syphilis alone in these countries between 1919 and 1935 was something spectacular. In Denmark, the rate of 520 cases of syphilis in 1919 per 100,000 of the population declined to 21·3 in 1935. In Norway, the decline was from 316 to 15 and in Sweden from 119 to 9·4 during same period.

In Great Britain, legislation was passed by Parliament in 1917 implementing the recommendations of the Royal Commission on Venereal Diseases. By this legislation, the state recognised its statutory obligation to provide facilities for the free and confidential treatment of persons affiicted with venereal diseases. The treatment of venereal diseases by unqualified persons and the advertisement of spurious drugs were prohibited by law. By 1939, 188 free treatment centres and 99 approved laboratories for the free examination of venereal diseases specimens had been created in the country and 88 per cent of patients with venereal diseases took advantage of the facilities so afforded. In addition, free diagnostic facilities and supply of special drugs are available to the practitioners, to enable them to treat their private patients. A continuous educational propaganda greatly helped to bring the patients under treatment. As a result of these measures, the number of cases of early syphilis dealt with at the centres in 1939 was less than 1/3 of those in 1920. Without the element of compulsion and law enforcement, the success of Great Britain in the control of venereal diseases, particularly syphilis had been remarkable.

America started late in the national drive against venereal diseases and have been following the Scandinavian example in the institution of public health measures. There are 3,800 public clinics financed by federal, state and local governments, where facilities for free treatment are provided. Recently they have also opened a number of rapid treatment centres with facilities for the hospitalization of early infectious cases. Russia is a signal example of a country where the concept of socialisation of health has been carried to its logical end in a period of twenty five years. The control of venereal diseases and suppression of prostitution received a high priority at the hands of the Soviet Government. Free and compulsory treatment was instituted by the opening of a net work of treatment centres all over the vast country.

In Czarist Russia, venereal diseases especially syphilis was pandemic and there were only ten V.D. clinics affording treatment for such a vast country. In 1931, nearly 1000 clinics were functioning. It is claimed by the Soviet Government and confirmed by other neutral observers that prostitution has been almost liquidated in Russia. Flying squads of doctors and nurses equipped with the Wassermann set up and specific drugs are sent to the distant Artic Siberian and Central Asian tribes to find syphilis and treat it. It is reported that in the decade between 1927 and 1937 the incidence of syphilis in Russia decreased by about 45 per cent. In all these countries during and since World War II, there has been a phenomenal increase of venereal diseases from the lowest 1939 pre-war level, but these countries are keenly alive to the danger of the post-war flare up and taking energetic measures of control, both national and international.

India with other Asiatic countries, is no where in this stirring picture of action and high planned endeavour. In our country where physical, malnutrition, undernutrition, malaria, tuberculosis, and other communicable and epidemic diseases contend for preferential treatment at the hands of the government, venereal diseases are likely to be relegated to a scondary place in the scheme of things. But I have tried to show from the meagre statistics available that the venereal diseases constitute one of the major public health problems in our country.

In the existing diarchical set up of the medical and public health administration of this country, venereal diseases come under the administrative control of the Surgeon-General in the different provinces. I consider this as an unsatisfactory and anomalous state of affairs which should be immediately rectified and venereal diseases should be brought under the administrative control of the Provincial Director of Public Health.

Each province should have a full time venereal disease control officer as part of the staff of the Director of Public Health. The officer should combine in himself public health experience and wide clinical knowledge of venereal diseases. It should be the function of this officer to plan the campaign against these diseases in its public health and medical aspects. He should have a number of trained assistants, both medical and non-medical, dealing with various aspects of control as the following:

1. Establishment of public clinics for free treatment.
2. Education and propaganda.
3. Supply of special drugs.
4. Social work connected with venereal diseases including contact tracing.
5. Training of doctors and other personnel.
6. Mobilization of the private medical practitioners in the control scheme.

7. Preparation and adoption of special forms for the reporting of venereal diseases, the maintenance of statistics and periodical, clinical and serological surveys of selected groups of population such as hospital admissions, entrants into the government service, industrial employees, all pregnant women, and high school and college students.

Venereal diseases clinics should be established in association with the main general hospitals of presidency towns and the districts, in hospitals for women and children and teaching hospitals. In larger cities of more than 50,000 population, the municipality should be compelled to establish additional V.D. clinics. Industrial concerns, employing a large volume of labour should also be compelled by law to make provision for the free treatment of their employees suffering from venereal diseases. Likewise, the State Railways in the province should provide venereal diseases clinic in important railway centres. The problem of affording medical relief to the rural population is difficult indeed as they live scattered in the villages, all over the country. I suggest two ways of meeting the problem, one is to subsidize the existing Rural Medical Practitioners supplying them with drugs and the other is the setting up of mobile V.D. clinics on wheels to tour round specified areas comprising a number of villages and render treatment at the very door of the villager.

Laboratory examination of venereal diseases specimens is essential for accurate and quick diagnosis and early treatment. In the case of venereal diseases, three routine laboratory procedures are necssary. They are (1) Dark field examination for spirocheta pallida, (2) Microscopic examination for gonococci and (3) Serological examination of the blood for syphilis. In every venereal clinic to be established, an essential equipment is an oil immersion microscope with a special outfit for dark-ground examination for the immediate performance of the first two diagnostic tests mentioned above. In every district headquarters hospital, venereal diseases clinic, provision should be made for the performance of a single, least expensive, easily carried out serological test for syphilis. In the venereal disease clinics attached to teaching hospitals the laboratory set up should be more elaborate, both for purposes of teaching and research. The larger municipalities in the provinces should also be required to have their own laboratories for all purposes including the examination of venereal diseases specimens. In many of the larger cities and presidency towns, private laboratories undertake to perform the serological tests for syphilis. The provincial public health authority should exercise a measure of control over the performance of the private laboratories by insisting on certain optimum standards and periodical cross checking of serological tests. The basic requirements of a good venereal disease clinic are:

1. A full time salaried medical officer, well-trained in the treatment and diagnosis of venereal diseases.

2. A sufficiency of other personnel including nurses, nursing orderlies, social worker, stenographer and laboratory technician.

3. Out-patient accommodation, ensuring privacy and separation of sexes in the examination and treatment.

4. Morning and evening sessions in V.D. out-patients to enable the working class people to take advantage of the facilities without interference to their means of livelihood.

5. Limited in-patient accommodation for the very ill patients in the larger hospitals.

6. A liberal supply of special drugs.

At each of the treatment centres, facilities for personal prophylaxis should be made available. In addition the larger municipalities, congested industrial areas and in pilgrim centres, there should be a few such prophylactic ablution centres. I have great doubts about the applicability of personal prophylaxis to civilian life. During the last ten years at the Venereal Clinic of the Government General Hospital, Madras we have had only two applicants asking for prophylaxis at the clinic.

For the control of any communicable disease like venereal diseases, next to affording facilities for treatment, education and propaganda are of the utmost importance. Provision of free facilities for treatments is likely to be of little use unless there is an organised and continuous propaganda at the same time to educate the people on the nature and danger of venereal diseases. Unlike tuberculosis and leprosy, individuals and voluntary associations fight shy of interesting themselves in venereal diseases. Hence it devolves on the State to devise measures for the education of the public. The type of educational programme must be suited to the particular social group to which it is applied. The co-operation of voluntary agencies such as religious bodies, social hygiene councils, rotary clubs, labour unions, women's organizations should be sought after wherever they are available and willing to co-operate in the official educational propaganda programme.

Most of the special drugs required for the treatment of venereal diseases are not manufactured in our country and crores worth of these drugs are being imported from abroad every year. For the mass treatment of venereal diseases in public clinics, it would be economical for the provincial government to purchase the half-yearly or annual requirements based on the forecast estimates obtained from the treatment centres. The Provincial Venereal Diseases Control Officer shall be responsible for the purchase, storage and distribution of these drugs to different treatment centres. From the public health point of view the introduction of Penicillin therapy in the treatment of syhilis and gonorrhœa is a remarkable advance and in Penicillin we possess the safest drug which renders a patient with syphilis or gonorrhœa rapidly non-infectious in the shortest possible time. The question of the large scale manufacture of Penicillin in our own country should receive the earnest consideration of the government as well as leaders in industry.

In the campaign against venereal diseases, the important role of the social worker is being increasingly

recognised all over the world. In many countries in the West, the social worker forms an essential and indispensible part of the staff of a V.D. clinic. The duties of the social worker are to interview the patients when they come to the clinic in a sympathetic, objective manner, to act as liaison between the patient and the doctor, to trace the original source of infections, and the subsequent contacts in the family, to interview defaulting patients in their homes and persuade them to attend the hospital for treatment. Such a social worker of the requisite training is non-existent in our country. A training school for hospital social workers should be established in every province and suitable men and women should be given training in the various aspects of hospital social work including venereal diseases. The Sir Dorbaji Tata School of Social Service in Bombay is the only institution in India which provides facilities for the training of social workers. I hope the authorities who run the school have included venereal diseases also in the curriculum of the studies. In the absence of trained social workers, the service of lady health visitors attached to the Maternity and Childwelfare centres may be utilized for the purpose in all the towns where such centres exist.

Any proposed expansion of treatment facilities for the public in the provinces will require a sufficient number of doctors trained in the diagnosis and treatment of venereal diseases. Since 1930, in Madras there has been a scheme of free training in venereal diseases of both govrnment medical officers and private practitioners of the province, at the Venereal Department of the Government General Hospital. Two courses are prescribed, one for a period of three months for private practitioners and the other for a period of six months for post-graduates who wish to specialise in the subject and to qualify for being posted in independent charge of venereal clinics. During the past 17 years, 131 post-graduates were so trained. The University of Madras have instituted higher diploma course in venereal diseases. The course of study extends over a period of one academic year. I suggest that similar post-graduates and diploma courses in venereal diseases should be started in the university centres and teaching hospitals in other provinces in India. I gather a number of medical graduates who served in World War No. II and who had training in the diagnosis and treatment of venereal diseases in the Army have been released and should be available for appointment as specialists.

In any public health programme the co-operation of practising physicians is essential if that programme is to succeed. This is particularly true in venereal diseases control. Of the 47,400 doctors practising the modern scientific system of medicine available in this country, 34,400 are in private practice, concentrated mostly in urban areas. It is my impression that a very large but unknown number of venereal disease patients are under the care of the private physicians. But the standards of diagnosis, and trearment in private practice are neither fair to the patient nor a credit to the profession. Faulty diagnosis, misuse of drugs, subcurative treatment, a lack of understanding of the proper use of and the interpretation of serological tests, the absence of appreciation of syphilis and gonorrhœa as infectious diseases requiring certain optimum standards of treatment to render them non-infectious, the ignorance, apathy and carelessness of the treated patients and finally the expense of treatment, these are some of the disconcerting features in the treatment of these diseases under private auspices.

The Provincial Venereal Diseases Control Officer should draw up a scheme for the participation of private practitioners in venereal diseases control programme. Such of those practitioners who are willing to come into this scheme should be given short refresher courses in a public state clinic in diagnosis and treatment. They should be afforded free diagnostic facilities, supply of drugs and free consultative service, from the state clinics. They should be required in their turn to maintain careful records of patients treated by them, to treat indigent patients free and charge a moderate fee for those who can afford to pay. Under such a scheme the reporting of cases by number if not by name would be obligatory.

It shall be the responsibility of the Provincial Control Officer to devise various morbidity forms relating to venereal diseases and it should be made obligatory on the part of private medical practitioners to report cases to the nearest health authorities. The returns in the prescribed forms from public clinics, medical institutions and private practitioners should be monthly or quarterly rather than annual. The monthly or quarterly prevalence figures for these diseases should receive wide publicity in newspapers, epidemiological reports and medical periodicals to rouse the public and the medical profession from their apathy. The question of introducing legislation regarding compulsory treatment of the infected persons or the prohibition of treatment by quacks and unqualified persons should be considered only after adequate facilities for free treatment are provided by the state and the public are sufficiently educated.

Though public health and medical relief are provincial subjects, venereal diseases control has an interprovincial and all-India importance. With the tremendous and unprecedented shifting of populations from one part of the country to the other, venereal diseases like other communicable diseases are likely to spread among the displaced populations. The Dominion Government at the centre should set up a separate division of venereal diseases control as part of the central health organization on the lines organized by the Federal Government of the U.S.A. Such a central organization can assist co-ordinate the control schemes in the provinces, establish and enforce optimum standards of laboratory procedures and treatment schedules, can advise on the legal, educational, social aspects of venereal diseases control, can plan and promote research through a system of grants in aid to the provinces and in the event of a grave national emergency such as war, can take power to prevent the spread of infections.

The existing facilities for the control of these social diseases are so grossly inadequate that they do not even touch the fringe of the problem. The medical

profession has a great responsibility in the matter of the health of the people. A *laissez-faire*, indifferent, individualistic attitude towards a serious problem like that of venereal diseases is unwarranted. It is only too true that we have so many public health problems to contend against in this country of ours. The first volume of the Bhore Committee report is a sorry tale of the appalling health conditions of the people for which the high incidence rate of venereal diseases contributes a major share.

An Association of specialists like that of yours can help to create a sane, hygienic, realistic attitude towards these diseases among the public and educate our leaders and rulers to a realisation of the immediacy of the problem of venereal diseases control.

II

CARCINOMA OF THE BREAST

Gordon-Taylor at a meeting of the Section of Surgery of Royal Society of Medicine on December 3, with Sir Max Page, the president, in the chair, opened a discussion on the treatment of carcinoma of the breast. Tracing the evolution of treatment, he paid special tribute to pioneer workers at Middlesex Hospital, including Charles Moore, Sir Alfred Pearce Gould, and W. Sampson Handley. Sir Gordon's own surgery of mammary cancer has been largely modelled on that of Handley; but he has not followed Handley in the employment of radium at the time of operation or in the use of postoperative radiation. On over a dozen occasions he has deliberately removed the chain of anterior mediastinal glands along with the internal mammary vessels after resection of the 2nd and 3rd costal cartilages; in retrospect he regrets that he has not more often performed this manoeuvre.

Confidence in preoperative and postoperative irradiation must tend to curtail the extent of surgical ablation. In 1938 four different procedures prevailed among 72 surgeons throughout Britain: (1) 25 per cent undertook radical operation without irradiation; (2) 44 per cent employed irradiation as a supplement to radical operation; (3) 29 per cent used irradiation after radical operation in group 2 cases only; and (4) 2 per cent favoured irradiation with or without a local operation. Since 1938 the exigencies of war have thrust much of the treatment on to radiotherapeutic clinics. Sir Gordon eschews postoperative radiation for cases in groups 1 and 2; 'For such I have preferred a sharp knife, a stout heart, and unquenchable optimism.' He was emphatic, however, that when the condition has advanced beyond stage 2, and for treatment of supraclavicular glands and bone metastases, radiation is the method of choice. Even among those who advocate routine ancillary radiotherapy there is no unanimity as to indications or method. Stuart Harrington found that, whether there was axillary-gland involvement or not, there was no appreciable difference in the 10-year survival-rate between those receiving radiotherapy and those who did not receive it. Truscott concluded that between 1926 and 1935 treatment was best when surgery alone was employed, and that from 1935 onwards the evidence was insufficient to say whether the combination of radiotherapy with surgery is better than surgery alone.

Few papers dealing with radiation refer to the morbidity from this treatment. Apart from unhappy local effects, sickness and other untoward sequelae may lower resistance to any malignant cells remaining after operation. Recurrence has taken place as long as 32 years after operation; in some no causal factor, except perhaps age, can be impugned as fostering the recrudescence; but in others recurrence appears to have been preceded by intercurrent disease or by surgical operation for some independent condition. Sir Gordon has seen a recurrence in the scar 17 years after a radical mastectomy and a few weeks after a severe attack of acute pyelonephritis; he has also seen recurrence in the scar follow an operation for haemorrhoids performed 16 years after the initial amputation. In three cases recurrence manifested itself shortly after a gall-stone operation, while in another patient recurrence seemed to be related to a herniorrhaphy performed under local anaesthesia. 'Cancer immunity', after being broken down, seems sometimes to be restored, and Sir Gordon has seen patients survive recurrence for as long as 10 years. The vagaries of this 'immunity' or 'resistance' are seen in alternating efflorescence and retrogression or disappearance of cutaneous nodules and even of invaded lymph-glands; while preternaturally slow growth of a mammary tumour and the protracted absence of metastases are indicative of the same cancer resistance. Still more amazing is the disappearance of a cancerous mammary growth and its secondaries.

Investigation has shown that the average natural duration of untreated cases of mammary cancer is about 3½ years. Treatment should, therefore, be gauged by the 10-year survival-rate. Of his total of 644 cases of primary cancer of the breast submitted to radical operation, 363 were treated up to June, 1928; and among these the 10-year survival-rate was:

Group 1, 84·07 per cent;
Group 2, 29·4 per cent;
Group 3, 6·5 per cent.

Almost without exception the conclusions of the surgeon-radiotherapist 'combines' are based on 5-year survival-rates; "when their figures at 10 years convincingly surpass those which I have given from radical surgery alone, I may then be prepared to solicit the routine aid of radiotherapy for the group 1 and group 2 patients".

Radiotherapy

Dr. Robert McWhirter discussed the 5-year follow-up of 2809 cases referred to the Royal Infirmary, Edinburgh, between 1930 and 1945. In 364 operable cases (stages 1, 2, and 3, Manchester classification) treated between 1930 and 1934 by radical operation alone, the number developing recurrences in the chest wall, axilla, and supraclavicular region of

the affected side was almost 40 per cent within 5 years of operation; in this proportion the operation was doomed to failure because the disease was not eradicated locally.

This observation led, in 1935, to the adoption of postoperative radiotherapy, as a result of which the percentage of local recurrence within 5 years was reduced from 40 to 14; and the 5-year survival-rate was raised from 37 per cent to 51 per cent in the treated cases.

The trauma of the operation and the opening up of tissue planes, especially in the axilla where an 'en-bloc' dissection is difficult to perform and where many lymphatic trunks must be cut across, suggest that malignant cells may be disseminated before x-ray therapy can be applied. In an attempt to overcome this difficulty cases have been treated since 1941 with simple mastectomy followed by postoperative radiotherapy. Cells may still be liberated when a simple mastectomy is performed, but these are unlikely to pass the intact barrier of the axillary drainage system; and by not dissecting the axilla the risk of dissemination from the axilla at operation is eliminated. Moreover, the average interval before x-ray therapy is started is shorter after simple mastectomy than after the radical operation. Keynes has achieved good results by a method which is essentially the same except that he used radium implantation.

Dr. McWhirter underlined the importance, in assessing the value of treatments, of relating results not simply to the cases actually treated but to the number of cases to which the method can be applied. A true comparison can be obtained only by expressing the number of survivors from each method as a percentage of the total cases referred, irrespective of the treatment used. By these standards the 5-year survival-rate of all operable cases treated by radical surgery is 35 per cent, and of all cases, operable and inoperable, 20-25 per cent. Moreover, he said, his figures refer to a large general hospital and include many advanced cases.

The following 5-year survival periods have been obtained in operable cases: 1930-34 (radical surgery only) 35·6 per cent; 1935-40 (radical surgery and postoperative radiotherapy) 44 per cent; 1941-45 (simple mastectomy and postoperative radiotherapy) 56·0 per cent. This gives statistical support to the belief that by not dissecting the axilla the risk of disseminating cells is reduced. Confirmation is forthcoming from the results in inoperable cases, though it was not possible or advisable to treat all of these by the methods adopted for each period. In 1930-34 no inoperable case survived 5 years; in 1935-40 only 2·5 per cent survived for this period, which suggested that post-operative radiotherapy was rendered ineffective by dissemination of cells at the time of operation; lastly, in the period 1941-45 the 5-year survival-rate was 14·1 per cent—or, if the localised inoperable cases are taken alone, 24·6 per cent.

Analysis of all cases referred to the Royal Infirmary in the 1935-40 period shows that among a total of 790 operable and inoperable cases the 5-year survival-rate was 32·4 per cent; and among 1345 cases in 1941-45 the rate was 43·2 per cent. When the cases with evidence of distant metastases are excluded, the 5-year survival-rate for 1941-45 is 50·1 per cent; and this figure is the more remarkable when it is borne in mind that not all cases, even in the operable group, were treated by simple mastectomy and radiotherapy.

At the Royal Infirmary the technique of simple mastectomy and postoperative radiotherapy is being continued, with the addition of x-ray therapy to the ovaries in women over the age of 35 with a view to influencing distant metastases.

Dr. McWhirter concluded with the following points in procedure; (1) preoperative preparation by iodine is contra-indicated; (2) the skin incision should be as short as possible; (3) tension on skin flaps may delay healing and the application of radiotherapy; (4) where the primary tumour is mobile on the pectoral fascia, the fascia should not be removed (5) if there are no palpable axillary glands no dissection should be performed, but superficial mobile glands in the subpectoral region may be removed; (6) if the patient is very stout it is better to carry out a radical operation; (7) supraclavicular glands should never be removed; (8) adhesive should not be applied to the skin. In postoperative radiotherapy; (1) only one full course of x-ray treatment should be given; (2) x-ray treatment should be begun as soon as possible after operation—usually 2 weeks after; (3) the chest wall must be treated by tangential or glancing fields to avoid lung fibrosis; (4) an adequate dosage must be given; (5) the above method should not be used with an apparatus of lower voltage than 250 kilovolts since an adequate depth dose cannot be delivered to the axilla.

Assessment of Results

Sir Stanford Cade said that the peak incidence of cancer of the breast is in the 55-60 age group; and he therefore, chose 55 years as the age at which to consider expectation of life in connexion with the disease. The breast is the least rapidly lethal of all sites of cancer—a consideration which should affect the choice of treatment. The mean duration of life in untreated cases is 39·3 months. Major Greenwood found actuarially that for a women of 55 the normal expectation of life was 18·87 years; with untreated cancer of the breast it was 3·8 years; with cancer of the breast treated under average conditions it was 5·78 years; while with cancer treated under the best conditions it was 12·93 years. The qualifications 'best' and 'average' are determined by (1) the stage of the disease, and (2) the type of treatment; and these two factors are the key to an unbiased assessment of treatment methods. Of all factors affecting prognosis, stage of the disease is the most important; and the following classification was suggested:

Stage 1—Tumour of the breast only.
Stage 2—Tumour of the breast, plus skin changes and/or axillary glands.
Stage 3—Tumour of the breast, plus supaclavicular gland or contralateral axillary gland of fixation to pectoral fascia.
Stage 4—Skeletal or visceral metastasis.

The zone of demarcation between good and evil prognosis is the clinical state of the axillary glands. The treatment of choice for stage 1 cases is radical mastectomy; and postoperative radiation in this group is of very doubtful value. The operative mortality is very low; in over 11,000 cases operated on in British teaching hospitals the rate was only 1·65 per cent. In stage 2 operation alone offers a chance of 5 years' survival in only about 20-30 per cent of cases. This group comprises three types of skin invasion; (1) direct spread and fungation, which is the least malignant; (2) diffuse invasion with oedema, which is of grave significance; (3) invasion of the skin by discrete nodules, which is a death sentence. With the last two types of skin involvement incalculable harm is done by radical mastectomy. Here radiation is the weapon of choice, and it converts some cases to group 1.

Simple mastectomy is suitable to the aged, for the removal of a fungating mass, in bad surgical risks with localised disease, and in cases where radiation is not available or suitable; but as a routine surgical procedure simple mastectomy is a retrograde step and is quite unwarrantable.

Radiation is of value:

(1) as the sole treatment in stage 3 cases;
(2) as a pre-operative measure in stage 2 cases;
(3) as a post-operative measure, chiefly in stage 2 cases.

Methods should not be allowed to deteriorate: "If women are to be mutilated by amputation of the breast, let them at least derive the maximum benefit from such mutilation."

Intercostal Glands

Mr. R. S. Handley said that, in association with Dr. A. C. Thackray, he had been removing the 2nd space intercostal gland of the internal mammary chain from cases of mammary carcinoma, to discover the frequency with which the internal-mammary glands are invaded. The 2nd space was chosen because it contains the largest and most constant gland of the internal mammary chain. In 20 cases so far examined in this way, glandular involvement was found as follows: no glands 6; axillary glands 3; intercostal glands 2; axillary and intercostal glands 9. No intercostal gland larger than an orange pip has been found; but invasion of the space is nearly always detectable by the matting of the tissues around the internal-mammary artery. It is difficult to believe the carcinoma cells lying almost on the pleura can be harmless. If the intercostal glands are invaded, the patient clearly cannot be cured by surgery alone; additional radiotherapy is needed, and it is doubtful if radical mastectomy is then indicated. Recently Mr. Handley has done two or three cases in which the first step was a 2nd intercostal-space biopsy; if from a frozen section it was found that the space was invaded, the operation was confined to simple mastectomy.—*Lancet*, **2**:872, 194.

NOTES AND NEWS

DEVELOPMENT OF MEDICAL EDUCATION IN INDIA

"The development of medical education and research on sound lines is prerequisite to any projected expansion in health services in the country," observed Rajkumari Amrit Kaur, India's Health Minister, in Bombay on 22-6-48 in her inaugural address to the Committee for the Upgrading of Existing Medical Institutions in India.

She stressed the urgency of medical work in rural areas through the establishment of village institutes under the aegis of higher educational institutions.

Sir L. Mudaliar, Vice-Chancellor of Madras University, is the Chairman and Drs. V. R. Khanolkar, R. N. Cooper, T. N. Banerji and Viswanathan are members of the Upgrading Committee.

Dr. Gilder, Health Minister, Government of Bombay, and Dr. Mehta, Dewan of Baroda, were present by invitation. Dr. Raja, officiating Director-General of Health Services, also attended the meeting.

The Committee has been entrusted with the task of visiting important medical colleges of India and medical institutions such as the All-India Institute of Hygiene and Public Health and the School of Tropical Medicine, Calcutta, the Tata Memorial Hospital, Bombay, and the King Institute, Guindy, for exploring the methods of upgrading particular departments or sections in these institutions in order to develop post-graduate training and research facilities of a high order which would become available to the provinces concerned as well as other parts of India.

The Committee is expected to finish its work within the next five months in view of the Government of India's intention to proceed with the execution of the scheme in the light of the Upgrading Committee's recommendations as quickly as possible.

This scheme is intended, apart from providing training and research facilities in special medical subjects, to help in the production of an adequate number of trained workers who will form a reservoir on which to draw for the staffing of the All-India Medical Institute which the Government of India have already decided to establish in Delhi.

The Committee also finalized the questionnaire to be issued to the various medical institutions in the country.

Inaugurating the Committee, the Health Minister hoped that its work would exercise a significant and lasting influence on medical teaching and research in India in the years to come. The development of medical education and research on sound lines was a prerequisite to any projected expansion of health services in the country.

The idea of developing post-graduate training facilities in medicine on a sufficiently large scale to enable the country to meet its own needs as far as possible was emphasized by the Bhore Committee in

its report which had recommended that the steps taken to achieve this end would include (*a*) an overseas training programme whereby a relatively large number of selected men and women doctors should be given opportunities to obtain intensive training under specialists in Western countries; (*b*) the establishment, in the first instance, of one large All-India Medical Institute for providing teaching and research of professional education for health workers; (*c*) the provision at a later date, of three or four similar institutes in other parts of this vast sub-continent; and (*d*) the expansion of existing departments for special subjects in provincial centres, with the help of the Central Government, in order to enable these centres to function on an all-India basis.

Continuing, the Health Minister said that the Government of India had accepted in principle the need for promoting the provision of adequate training facilities in the medical field in India itself and would, along with provincial Governments, explore all possible means of achieving this end.

In January, 1947, she said, a special committee under the chairmanship of Sir L. Mudaliar was appointed to put forward detailed proposals for the establishment of an All-India Medical Institute, Dr. Mehta and Dr. Khanolkar were on the body. They felt that the development of provincial centres for post-graduate training and research in special subjects must take precedence even over the establishment of the All-India Medical Institute.

Dr. Mehta and Dr. Khanolkar had urged, she said, that an Upgrading Committee might be set up as a preliminary step for the exploration of the possibilities of organizing provincial centres of teaching and research on the lines already indicated.

The Government of India had accepted their suggestion. She personally did not want the establishment of a first class medical institute to be delayed a moment longer than was necessary and hoped that the upgrading of the existing medical institutions would be only a step forward towards the achievement of the larger aim.—*A.P.I.*

PRESERVATION OF FOODSTUFFS IN INDIA

Over 60 new cold storage plant for the preservation of seed-potatoes and perishable foodstuffs like fruits, vegetables, milk products, eggs, meat and fish, and a number of ice manufacturing plant are likely to be installed in India before the next hot season sets in, according to details available in the Ministry of Agriculture, Government of India.

Located at about 40 different centres in various parts of the country, these plant will have a capacity varying from 3,000 mds. to 30,000 mds. for a single unit, with a total capacity of over a million and a quarter maunds. At present the country has only about a dozen such plant for civilian use.

It is stated that every year the country suffers heavy losses on account of deterioration in the quality of perishable foodstuffs before marketing or on account of these having to be sold at uneconomical prices in glut markets. "Refrigerated warehouses," as the cold storage plant are known in Western countries, are believed to be the best means known to science for converting these heavy losses into profits. It is estimated that these losses at present in the case, for instance, of seed-potatoes are as high as 50 per cent. Cold storage plant, experts claim, can help to cut down this loss to something like 5 per cent.

The Ministry of Agriculture, which has a special branch called the Refrigeration Development Division, is believed to be taking keen interest in popularizing the idea of preservation of foodstuffs through refrigeration among the growers in the country, with a view ultimately to augmenting the total availability of foodstuffs in the country all the year round and at the same time protecting the growers from avoidable losses.

A number of interested parties all over India are putting up plant under the general guidance of the Ministry's Refrigeration Development Engineer, Mr. M. L. Khanna. Some growers in Bihar are reported to have taken the lead in putting up a plant themselves.

The U.P. will have the largest number of cold storage plant in the country constructed mostly to store seed-potatoes. The remaining plant are being spread over Delhi, Bengal, Bihar, Bombay, the C.P., East Punjab, Madras, Orissa, Gwalior, Rampur and Travancore.

According to plans at present known to the Agriculture Ministry, there will be over 40 plant throughout the country for the storage of seed-potatoes alone with a total capacity of over 850,000 mds. There will be more than 10 plant of a multipurpose nature with a total capacity exceeding 240,000 mds. for storing various articles like fruits, vegetables, meat, fish, milk products, eggs, etc. There will also be plant specially for fish storage.

The Ministry of Agriculture is shortly convening a conference in New Delhi at which representatives of growers and Provincial Governments will be present to discuss the development of the refrigeration industry on a planned basis.

A problem of great importance which the conference will consider is the gradual building up of a countrywide net-work of refrigerated transport, linking cold storage plant at various points in the country to ensure that the quality of foodstuffs does not deteriorate during transit from cold stores in the growing areas to those in the marketing areas.

The training of Indian technical personnel in this branch of science will also be a subject for consideration at the conference.

GENEVA WORLD HEALTH ASSEMBLY

India's Health Minister Rajkumari Amrit Kaur will lead the Indian delegation to the first session of the World Health Assembly, due to be held in Geneva from June 24, 1948.

The other delegates are Dr. Sir A. Lakshmanswamy Mudaliar, Vice-Chancellor of the Madras

University ano Lt.-Col. N. Mani, Deputy Director-General of Health Services.

Sir Dhiren Mitra and Lt.-Col. C. L. Pasricha, Legal and Medical Advisers respectively to Indian High Commissioner in London will be alternate delegates, while Dr. S. C. Sen, Radiologist, Delhi and Vice-President of the Indian Medical Association, and Lt. Col. Jaswant Singh, Director of the Malaria Institute of India, will be advisers.

The Indian delegation is expected to press its claim that the headquarters of one of the regional bureaus should be located in India "to serve India and the neighbouring countries," and it is also proposed to seek a seal for India on the executive board,

DR. B. MUKERJI

A cable has just been received intimating that Dr. B. Mukerji, Director, Central Drugs Laboratory of the Government of India and General Secretary, Indian Sciences Congress Association, Calcutta has been appointed a 'Corresponding Member' of the Pharmaceutical Society of Great Britain. This distinction is accorded to such scientific workers as have distinguished themselves in the fields of drug research and have rendered distinguished service to the cause for which the Pharmaceutical Society of Great Britain stands.

The Society was established in 1841 and obtained a Royal Charter in 1843. During more than a century of its progress and association with India, only 2 non-pharmacist Indian Scientists have been recognised—Colonel Sir Ram Nath Chopra and Dr. B. Mukerji.

Dr. B. Mukerji has contributed a great deal towards the drug reform movement in India during the last 18 years and his work in the field of Pharmacology and Pharmacy is already recognised both in India and abroad. He was admitted into the Swiss Society for Pharmacology and Physiology last year and into the American Society for Pharmacology and Experimental Therapeutics in 1940 and American Pharmaceutical Association in 1948 respectively.

THE DOCTOR IN THE MAGISTRATE'S COURT

In one of the series of lectures on medico-legal subjects arranged by the Metropolitan Counties Branch for the benefit of senior students and newly qualified practitioners delivered in the Great Hall of the Association's House on Feb. 3, 1948 with Dr. H. Guy Dain, Chairman of Council of the British Medical Association, as president Mr. Claud Mullins, former metropolitan magistrate at the South-Western Court, said that when he first became a magistrate he was as cocksure as any of his legal brethren, but it took him only a few weeks to realize how much he needed the help of the medical profession. It was the sexual offenders first of all who compelled him to seek the advice of doctors. He could not understand why they did what they did, nor did he know what action he could take to prevent them from doing it again. Sir William Clarke Hall referred him to the Tavistock Clinic (the Institute of Medical Psychology), whose medical director, Dr. J. R. Rees, undereook to see such cases as he thought could be helped in that way. Some years before the war an inquiry was undertaken by the Prison Commission concerning the possibility of treating offenders of this type in prison. The report was rather a depressing one, especially with regard to the exhibitionist group, and was contrary to his own experience, which was that if an offender would go to a psychiatrist for treatment, and would stick to the treatment, he would improve. The failures were among those who would not go or, having once or twice, would not continue.

In the Criminal Justice Bill as introduced into Parliament just before the war there was a clause under which courts, through their probation machinery, could pay for doctor's treatment, but this clause did not reappear in the present Bill. A heavy blow would be struck at the use of psychiatry in dealing with offenders if the necessary treatment was required to be taken at mental hospitals, places dreaded by the rather primitive people concerned. Part of the success attending the treatment of the sexual deliquent was attributable to the private nature of the treatment; it was a great advantage if it could take place in the doctor's consulting room.

As a police magistrate he had often found doctors very useful in marriage cases. In many cases the real trouble between husband and wife was a complete inability on the husband's part to understand sexual manners. The man had never learned the elementary fact that there were times when a woman might not want sexual intercourse, and the result was frustration on the one hand and an unnecessary frigidity on the other. Magistrates felt that they were not the right people to teach sexual manners and that the services of a doctor could with advantage be offered. He obtained through the British Social Hygiene Council the names of doctors willing to undertake this task, and he found that if a couple could be persuaded to go to such a doctor concerning their matrimonial difficulties it almost always resulted in a reconciliation. He was rather proud of the number of cases which he had turned over to a doctor and which had been successfully resolved.

Inadequacy of the Law.—All those who sat in judgment on offenders against the law were either lawyers or lay magistrates; on their decisions the fate of a criminal depended. Mr. Mulins thought the time was coming when the public would realize that for a good deal of crime a fair trial and a sentence according to law was not enough. Lawyers and lay magistrates were not always the best people to decide on the course to be taken with an offender and it was by no means only in sexual cases that psychiatry might be needed. At all times there were in prison and women too, who could have been made into decent citizens if only when the case was heard someone had been present to point out to the judge, the recorder, or the magistrate what course was likely to be most successful in putting them right. He believed that at some future date crime might be divided into two classes, medical and non-medical. The law was inadequate to deal

with some types of crime. Before sentence was passed in these cases there should be provision for social investigation by doctors. He wanted to see doctors take at least as important a place in court as the officers already there. He wanted them to come in, so to speak in the province of the sentence.

In some discussion following the address the question of doctors called in by one side and giving partisan evidence was raised. Mr. Mullins said that it was certainly an undesirable position when the doctor was called in by one side or the other exposing him to the criticism that he was weighting his evidence in favour of the side which had called him in. The more desirable arrangement would be a medical panel available to the court. Doctors from this panel would in certain cases give their opinion previous to the trial. and if they decided that the man was of unsound mind the trial would not proceed. It was perfect nonsense to submit evidence of insanity to a jury.

Asked whether there was likely to be any change in the McNaghten "rules," Mr. Mullins said that these "rules" had caused great controversy. Before the war a committee recommended that irresistible impulse should be regarded as an excuse within the McNaghten rules; he was against this because it could be pleaded by criminals to cover many crimes. What he wanted to see was an alteration of the procedural law; he wanted a classification of degrees in murder, proper medical investigation of cases beforehand, and, if there was a conviction, more cases to be sent for medical investigation and treatment.

—*Brit. M. J.*, **1**:355, 1948.

AUSTRALIA INAUGURATES FREE MEDICINE AND MEDICAL HEALTH SCHEMES

Edgar Bee writes:—Pockets can be greatly depleted even by ordinary doctors' and chemists' bills. Therefore of considerable personal interest to Australian citizens—particularly those in the lower and middle income groups—is the introduction on June 1 by the Federal Government of the first part of a comprehensive plan for national health and welfare. This "First instalment" is the Pharmaceutical Benefits Act, popularly referred to as the free medicine scheme.

The Act was passed in 1944, but a High Court decision prevented its operation till a referendum cleared the way.

Details were announced early in May. The cost is expected to be about Rs. 20,000,000 a year.

It is expected that practically all Australia's 3,000 chemists and 150 dispensaries will co-operate fully, and the Minister for Health and Social Services, Senator McKenna, has expressed confidence that, despite the B.M.A.'s present attitude, doctors will soon be substantially in the scheme. B.M.A. spokesmen have claimed that at present only one doctor in five is prepared to co-operate with the Government.

It is interesting to compare the position in Australia with that in Great Britain. According to reports, the B.M.A. Council in London has now recommended that doctors co-operate in the new National Health Service to begin on July 5, on condition that the Ministry of Health continues to negotiate with the B.M.A. on outstanding matters of disagreement between doctors and Government. The early position in the old country appears, therefore, to have been similar, basically, to that now existing in Australia. No doubt differences willl be satisfactorily adjusted in both countries.

National Medical Service—A national medical service will follow the Federal Government's free medicine scheme if projected legislation is carried, Mr. Chifley said on May 11. That it will be carried is almost certain, as Labour has a clear majority in both Federal Houses. Mr. Chifley hoped that the National Medical Bill would be introduced during the Budget session in September.

Estimates about when the scheme would be substantially in operation vary. Delay is likely because negotiations between the B.M.A. and the Government have been protracted, and will no doubt continue to be so. Early in 1950 is one guess.

The national health plan is intended to provide free medical treatment for all and estimated to cost between Rs. 16,00,00,000 and Rs. 21,00,00,000 a year. The proposed free medical service includes free doctors and hospital services; absorption of most private doctors into the service, with compensation for those who join by a declared date; freedom of selection of doctors by patients; control of practically all hospitals; establishment of diagnostic and research centres; extension of medical facilities in sparsely settled areas.

Subsidiary health and welfare services which might be provided include more pre-natal centres, maternity hospitals and infant welfare centres, nutrition services, a domestic service for married women with large families, free dental treatment for children, greatly increased production of new drugs such as penicillin, streptomycin and sulpha drugs.

Senator McKenna, has been negotiating with the B.M.A. on these projected schemes.

B.M.A. objections—Crux of the B.M.A. objection to the free medicine scheme has been that doctors would be obliged to confine their prescribing to the officially approved formulary, copies of which are being sent by the Government to every doctor in Australia. Senator McKenna has denied this. His answer is that the formulary contains 600 items, including modern drugs of the sulpha group, preparations of penicillin, vaccines, serums, anti-toxins and other biological products such as insulin. Preparations under more than 40 headings in the formulary range from ear, eye and nose drops to children's requirements, vitamin solutions and sundry medical materials and appliances.

Said Senator McKenna: "We have made provision for ingredients of formulas to be omitted, reduced and in some cases increased. Certain drugs may be added to mixtures and other preparations. These provisions give great flexibility to the formulary. The many variations they permit extend its range to hundreds of thousands of prescriptions."

He added that if a doctor considered he should prescribe a drug not in the formulary, he was free to do so. However, the patient must pay for the prescription.

B.M.A. Secretary and spokesman, Dr. J. G. Hunter, still objected that doctors should be able to prescribe without any limitation of ingredients, under the scheme.

Dr. Hunter claimed that the scheme would "endanger the standard of medical practice" if implemented in its present form. It not only failed to meet the real needs of the people, but it restricted the doctor's freedom to prescribe according to his conscience and professional judgment, and forced him to use an official formulary "merely to cheapen administrative costs at the expense of the patient and efficient treatment."

Dr. Hunter said that the Governments of New Zealand and Great Britain, both of which had introduced schemes for the provision of free pharmaceutical benefits, permitted unrestricted prescribing by doctors; why not in Australia?

Dr. Hunter concluded his statement (as reported in the "Sydney Morning Herald" of May 6) with: "Is this a preliminary movement towards the Government's declared objective ultimately to replace the family doctor with a Government doctor?"

It was not, however, until May 18 that the B.M.A. circularised its members and, in effect, definitely advised them not to co-operate with the Government in the scheme. Dr. Hunter announced simultaneously that the Federal Council of the B.M.A. was making "a final appeal" to the Government to meet the B.M.A. suggestions.

It is believed that Senator McKenna is pinning his faith on the younger members of the profession.—*Australian News Letter.*

COLLEGE OF PHYSICIANS & SURGEONS, BOMBAY

The following candidates have passed the D. O. M. S. Examination held in May 1948:—

Deshmukh, Lakshman Narhar, Patel, Rustam Jehangir and Sunthankar, Shripad Vithal.

The following candidates have passed the Third M. C. P. S. Examination held in April 1948:—

Amin, Nirmalabhen Chunibhai (Miss), Banwat, Omkarlal Deepchand, Bhatt, Maheshwar Nanalal, Bilimoria, Ratanshaw Dosabhoy, Lumba, Dharampal, Nanavaty, Ranjankumar Kundanlal, Patel, Tulsidas Lalbhai, Shah, Madhuben Budhabhai (Miss), and Shah, Surendra Premanand.

SWINEY PRIZE FOR A WORK ON MEDICAL JURISPRUDENCE

The Council of the Royal Society of Arts, John Adam Street, Adelphi, London, W.C. 2 give notice that the next award of the Swiney Prize will be made in January, 1949, the one-hundred-and-fifth anniversary of the testator's death. Dr. Swiney died in 1844, and in his will he left a sum of money to the Royal Society of Arts for the purpose of presenting a prize, on every fifth anniversary of his death, to the author of the best published work on Jurisprudence. The Prize is a cup, in normal times of the value of £100, but on this occasion of the value of £150, and money to the value of £100.

The award is made by a joint Committee of the Royal Society of Arts and the Royal College of Physicians, which appoints special adjudicators.

The Prize is offered alternately for Medical and General Jurisprudence, but if at any time the Committee is unable to find a work of sufficient merit in the class whose turn it is to receive the award, it is at liberty to recommend a book belonging to the other class. The Prize will be offered on the present occasion for Medical Jurisprudence.

Any person desiring to submit a work in competition, or to recommend any work for the consideration of the Judges, should send it to the Secretary of the Society not later than November 30th, 1948.

CORRESPONDENCE

The Editor is not responsible for any views expressed by contributors.—EDITOR.

"NO LICENTIATES"

The Government of India have spoken the last word regarding the future of the Licentiates in Military service,—"No Licentiates need apply". Their fond hopes of getting full justice from a national Government has at last been shattered. The 32 Annual Conference of the All-India Medical Licentiates' Association held at Delhi in April 1943 accepted in principle the terms of the grant of Emergency Commission in the Army for Licentiates. It had fallen to my lot, then, as President of the Association, to inaugurate an extensive recruitment drive throughout the length and breadth of India, though I did express a fear in my presidential address and warned the Government that the Association did not expect a "Made in Japan" brand of recognition and that "there cannot be anything like an offer of temporary honour and temporary respect". We were then told that the differences in military medical services were buried ten fathoms deep and that one joining the service as a Second-Lieutenant, could by dint of merit alone rise to the highest rung of the ladder of a Lieutenant-Colonel. General Jolly, the then D.G., I.M.S. in January 1945 opined that "never can the Licentiate as a class be thrust back to their *subordinate status and menial pay*" (italics mine). His successor General Hance in March 1946 said that "the war which has so recently terminated has seen the licentiates rise to the rightful position of one possessing a registrable medical qualification, that of a commissioned medical officer". The Late Sardar Jogendra Singh and the military department were all praises to the work of the military Licentiates. Today these have either retired or no more-and their promises are also no more respected by their successors. The military award for the "toil and sweat, blood and tears" of the Licentiates has been a banged door against their future prospects and their rightful dues.

History has repeated itself. The promises given to the Licentiates during the first war (1914-18) were broken by the report of the Medical Services Reorganisation Committee (Lovett Committee) which recommended retrenchment and curtailment of promotions to the Higher Grade. It was a Herculean task for the Government to win over the Licentiates to help them during the 2nd world war. And in this post-war period if the present National Government also hurls intolerable insults on them—God forbid the consequences. Already the third war clouds are threatening to burst any moment. The forty thousand Licentiates will have in honour bound to stand aloof and non-co-operate with the Government. The present Government have both a legal and a moral responsibility. No doubt they may maintain that they did not support the last war and so are not bound by the commitments of their predecessors. But are they not now running the government with the help of the thousands of those who were antagonistic to the Congress, nay, even actively supporting the British Government? Then why punish only the Licentiates —who did after all humanitarian service to the two million and odd of their own countrymen serving in the various war fronts? I am therefore making an earnest appeal to the government to reconsider their decision. I implore Pandit J. Nehru and Sardar Baldeo Singh to personally look into the matter as I am confident that we will have full justice at their hands. Let the government and the public realise that in case the wrongs done to the class are not righted now, the Licentiates shall not be blamed for standing aloof, if and when at a future emergency, their services may be needed by the country.

The Associations (The I.M.A. & the I.M.L.A.) should not take these insults lying down. I would strongly urge that a strong deputation of the Associations should wait on H.E. the G. G., the Prime Minister and Defence Minister, interview every member of the Cabinet, explain to them the situation and impress upon them the urgent need for redress of the grievances of the class. I do hope they will move swiftly in the matter. I am etc.

U. B. NARAYAN RAO

Bombay, 12-1-48.

SPRUE SYNDROME IN INDIA

Sir,—Lt.-Col. Karamchandani's paper on Sprue Syndrome in India published in the Journal of the Indian Medical Association for March 1948, has made confusion worse confounded, for, according to him the lesion in this condition may be in the stomach or the duodeno-jejunum or the ileum or the colon, and further there may be deficiency of bile flow or deficiency in pancreatic secretion or both. This is contrary to the generally recognised views on the subject.

Would he first define what he means by 'sprue' and 'sprue syndrome'? Does he mean to say that all diarrhœas caused by gastritis or duodeno-jejunitis or ileitis or colitis or by the deficiency of bile flow or deficiency in pancreatic secretion or both constitute 'sprue' or 'sprue syndrome'?

He states that the gap, mentioned by Manson, of absence of knowledge of histopathology of sprue due to no post-mortems having been done on sprue cases has now been filled and that his conclusions 'have an authority of concrete work and not abstract conjecture', and in support of that he has reproduced the histopathological report of one case. But he has not said a word about or given any proof of the accuracy of diagnosis of sprue in that case and the histo-diagnosis, arrived at by the pathologist, is stated to be 'ulcerative colitis of unknown ætiology'.

The profession will reserve its judgment on his work on the subject and on his conclusions which according to him 'have an authority of concrete work and not abstract conjecture' until the confusion created by him is removed, the terms 'sprue' and 'sprue syndrome' are defined and scientific proof of diagnosis of sprue in the case whose histo-pathological report he has published is given. I am etc.

AMIRCHAND

Simla, 9-6-48.

DOSE OF PALUDRINE

Sir,—We have amended our recommendations for the treatment of malaria and these recommendations are as follows:—

(1) For Radical Cure, 0·3 Gm. twice daily for 10 days. In the case of severe infections the dose may be increased up to 0·5 or 0·6 Gm. twice daily for the first three days. (2) For a Clinical Cure, that is to say, control of the acute attack of malaria, a single daily dose of 0·3 Gm. should be given until the fever subsides. This is the dose best suited for malaria arising in rural areas, (which has been called by some Indian writers "Village Malaria") where medical attention is not always easily obtainable. In the case of protection against malaria, however, although we have carefully considered the reports from Africa we do not think that we are justified in recommending the Medical Profession in India to adopt the daily dosage of one tablet (0·1 Gm.) for prophylactic purposes. There are many well controlled Indian trials published, and unpublished, which show conclusively that on a dose of one tablet (0·1 Gm.) twice-weekly at evenly spaced intervals, or three tablets (0·3 Gm.) one-weekly the incidence of malaria can be reduced to almost negligible proportions, provided the administration of the drug is regularly maintained during the transmission season. We therefore do not propose to make any alteration in our recommendations for prophylaxis and protection against malaria.

I am writing this letter in the hope that these remarks will be of interest to the Medical Profession when considering the new dosage. The matter has not been decided by my Company alone, and the Medical Profession in India may rest assured that the dosage we are now advising has the support of the highest authorities on malaria, both in India and Pakistan and the U.K. I am etc.

J. M. MUNGAVIN, M.B., B.CH. (Cantab),
Medical Service Dept. I.C.I. (India) Ltd.

Calcutta, 9-6-48.

REVIEWS

THE 1947 YEAR BOOK OF GENERAL MEDICINE—Edited by George F. Dick, J. Burns Amberson, George R. Minot, William B. Castle, William D. Stroud, George B. Eusterman. Crown 8vo. pp. 784. Published by The Year Book Publishers Inc., 304 South Dearbon Street, Chicago. Price $3·75.

Medical science is advancing rather rapidly. Numerous journals are being published weekly and monthly and quarterly to cope with newer observation. It is not possible for any general practitioner to keep in touch with those newer knowledge. That is the reason why such publication as the year book of medicine becomes so useful. In a small compass the able editors have placed before the reader almost all the newer diagnostic and therapeutic procedures applicable to the type of cases seen most frequently in general practice.

The informations available cover a wide range. Streptomycin, the new antibiotic is discussed in detail. Experience of its use in tularæmia and tuberculosis are given at length. Importance of digitalis glycosides are discussed. Estimation of a fasting urine tyrosine level for the diagnosis of pernicious anæmia is stressd. Tularæmia, undulant fever, histoplasmosis and psittacosis receive greater attention during the year under review. Contraindications to surgical treatment of hypertension are enumerated. Four recognisable types of rheumatic fever activity are given thus (1) The acute fulminating type which is of sudden onset, with migrating polyarthritis, rapid development of carditis and often pneumonitis and subsides rapidly or goes into prolonged low grade activity. (2) The subacute polycyclic type which is similar but less severe (3) The subacute monocyclic type which is most frequent and in which onset is mild or moderately severe with mild fever, migrating pains, tachycardia and moderately elevated leukocyte count and sedimentation rate and (4) the subclinical type, in which signs of rheumatic heart disease are found with or without a history of previous upper respiratory infection.

In the references authors in America predominate. We hope the general practitioner will find this book a useful companion.

B. P. Neogy.

THE REVIEW OF TROPICAL DISEASES: A HANDBOOK OF PRACTICAL GUIDE FOR THE PRACTITIONER IN THE TROPICS—Edited by N. G. Mojumdar. Vol. I, 1944-46, Crown 8vo., pp. viii+374. Published by S. C. Sarkar & Sons Ltd., College Square, Calcutta 12. Price Rs. 12 only.

The review though mainly a book of reference for current medical thoughts on tropical medicine contains four original articles, one on the history of medicine in India, one on enteric group of fevers, one on tropical eosinophilia and one on nutrition. The 'long abstracts' contains useful articles of wide range of practicality written by authors of fame and experience.

The author has successfully dealt with almost all aspects of medical progress including treatment and use of modern drugs. He should be congratulated for presenting in so small a treatise such a vast wealth of information regarding diseases in the tropics. The book will be of real help to the students and practitioners alike.

P. G.

THE CARE AND TREATMENT OF THE ELDERLY AND INFIRM—Report of a Special Committee of the British Medical Association. Published by the British Medical Association, Tavistock Square, London, W.C. 1, Price 3*d*.

With advances in industrial welfare, preventive medicine, housing, nutrition and in the general standard of living, England is now faced with a new problem of care of the aged. Expectation of life has increased from 44·1 years in 1891-1900 to 67·7 years in 1942. As such the numbers aged 60 or over have increased enormously. In 1901 there were about 2,408,426 persons in Great Britain under the above age group. In 1946 there were 6,587,000 persons of which 3,759,000 were women. In the Beveridge Report it is estimated that the number of old people (men over 65, women over 60 years) will have risen from 5,571,000 in 1941 to 9,576,000 in 1971. It has also been generally accepted that the morbidity rate rises sharply with advancing years. It is estimated that between the age group of 65-74 the number of invalids is about 53·5 per 1000. So the problem is not only the care of the aged but also the elderly infirm, elderly sick and the elderly psychiatric patients. Of the elderly sick it is anticipated with the increased use of penicillin and sulphonamides, the common causes of serious physical illness in old people will be cardiac and cerebrovascular diseases and those in the rheumatic group.

The Committee recommend a co-ordinated medical service for the elderly in each region with the establishment of geriatric departments based on selected hospitals, including teaching hospitals. The co-ordinated plan is a new concept, the framework of which is composed of three interdependent sections (1) the geriatric department (2) long stay annexes (3) residential homes.

A geriatric department comprises wards in a general hospital served exclusively for elderly patients, all of whom are undergoing investigations or active treatment and rehabilitation so that in due course they may be discharged from such wards, either to their own homes or after classification or other appropriate accommodation.

Long stay annexes provide, under the medical supervision of the geriatric department, accommodation and nursing care for irremediable elderly patients, who after full investigation and treatment in the geriatric department show no promise of further improvement. Residential homes provide in close association with geriatric department, accommodation for 20 to 40 elderly persons in need of reception but not of nursing care.

We hope this useful pamphlet will awaken the whole community to the existence in their midst of a state of affairs often tragic in its melancholy and suffering.

B. P. NEOGY.

THE PROBLEM GIRL—1947. pp. 15. Published by the British Medical Association, Tavistock Square, London, W.C. 1, Price Three pence.

This is a report of a Joint Committee of the British Medical Association and the Magistrates Association set up to find ways and means to meet this serious problem. The subject under investigation is the unstable girl between 13 and 17 years of age, who come before the courts charged with stealing or because they are beyond control or in moral danger or because they are in need of care or protection. The present methods of dealing with these girls are admittedly unsatisfactory. The Committee approached the problem from a totally new angle. It was found that the cause and nature of the problem were not clearly understood or appreciated by those concerned with such girls. Superficially she is a 'good time girl'. Investigations revealed that the girl's misbehaviour is the result of interaction between temperament and environment with a background of some defect of character—structure. The normal home life is found disturbed or broken. The absence of parental love and understanding and control and the lack of security and stability in the home are a serious loss to a girl in her teens which she may try to compensate outside the home. The girl is also found unhappy in her work. Jobs are not always to her choice or inclinations and as such she floats about without striking a root. At the same time she becomes almost independent and contributes to the family exchequer. The last War has made its contribution to this difficult problem liberally. Irregular schooling, evacuation, sleeping in shelters, bad housing and also to some extent the insecurity of life during the war period, have accentuated any tendency to moral or emotional instability and may often have provided temptation. This has been aggravated by general loosening of moral standard, lack of perental responsibility, and the diminution of religious and spiritual values. Three types of girls have been encountered in this investigation. The mental defective child coming from a unsatisfactory home is apparently bright and talkative. She is underdeveloped, superficial, ambitionless, indisciplined, stupid child who even cannot cover her traces of theft. She is completely indiscriminating in love affairs and gratification of the moment is the limit of her mental horizon. The next group of girl is of higher intelligence, precocious, superficially bright but emotionally resemble the former type. Their interest in life is confined to cheap magazines of love stories, film stars and self adoration. They live in a fantasy of erotic glamour. The homes are not always poor but there has been no proper and adequate sex education.

The third type of girl is the over-sexual type. Apart from this she is fairly intelligent and social. Emotional immaturity is masked by pseudo-sophisticated air lent by her sexuality. This type of girl may develop into a true nymphomaniac.

In order to deal this problem effectively the Committee have made their recommendations under the following heads:

1. A fuller recognition of the general nature and causes of their misbehaviour and of the objects of treatment.

2. More facilities and skilled staff for the investigation and treatment of individual cases.

3. More clinics and institutions for the purpose of treatment and control.

It is the opinion of the Committee that a majority of the cases can be successfully tackled by psyciatric treatment under suitable environment. There are, of course, limitations of this treatment.

We hope this small pamphlet will be found useful by the magistrates of juvenile courts in this country and also by the social workers who deal with juvenile offenders.

B. P. NEOGY.

XIII U. P. PROVINCIAL MEDICAL CONFERENCE

The XIII U.P. Provincial Medical Conference will be held at Kanpur in middle of August 1948 under the presidency of Dr. M. Atal of Lucknow. Her Excellency Srimati Sarojini Naidu, Governor of U.P., has kindly consented to inaugurate the conference. All members of the profession in U.P. are requested to write papers and to come and read them at the Scientific Section. The Organising Secretary of the Conference is Dr. P. N. Bajpai, M.B., B.S., Kanpur from whom all information regarding the conference may be obtained.

CURRENT MEDICAL LITERATURE

Intolerance to Drugs in Asthma

Morgan and Prickman (*Proc. Staff Meet. Mayo Clin.*, **22**:391, 1947) emphasize on the tendency for asthmatic subjects to show intolerance to drugs. Of 17 consecutive patients with asthma, seen over a two-month period, 12 either gave a history of previous abnormal reactions to drugs, or experienced such reactions while under treatment. The drugs to which these patients gave abnormal reactions included aspirin, morphine, barbiturates, bromides, iodides, chloral, iodized oil, aminophylline, benadryl, pyribenzamine hydrochloride, and sulphanilamide. The reactions observed in this series were divided into true drug allergy, intolerance, overdosage, and side-effects. A true allergic response may occur immediately on taking a drug; it rarely occurs more than two hours after administration. The most frequent example of drug allergy is that following the ingestion of acetylsalicylic acid; this occurred in five of the 17 patients in this series. Intoleraince to drugs is the most common finding, particularly to morphine and codeine, and the statement is made that "without question it (morphine) is a dangerous drug to use in asthma and one which courts catastrophe." Iodides are also liable to be tolerated badly, even in small doses. They usually produce a papular rash or congestion of the salivary glands. Overdosage is most likely to occur with the barbiturates because many remedies for asthma and hay fever contain barbiturates, and without realizing this, practitioners are apt to prescribe barbiturates in order to allay anxiety or to encourage sleep. It is urged that patients who have asthma should be "carefully questioned about previous reactions to drugs of any and all types, and each asthmatic patient must be observed closely for early evidence of such intolerance. The use of the drug or drugs responsible must be meticulously avoided."

Granular Proctitis Treated with Succinyl-Sulphathiazole Suppositories

Cluer (*Lancet*, **2**:168, 1947) writes that proctitis occurs as a late complication of, or concurrently with, dysentery affecting the lower bowel. It has to be distinguished from chronic bacillary dysentery, chronic intestinal amœbiasis, mucous colitis, and low-grade chronic idiopathic ulcerative colitis.

It was suggested that succinyl sulphathiazole might be incorporated in a suppository so that the active sulphonamide could be brought into intimate contact with the granular and purulent areas without the waste involved in retention enemas. The formula and method of preparation as devised by Mr. Barelay, the hospital pharmacist, are given below.

One suppository was inserted each night well inside the canal and retained at least twelve hours. The oral administration of succinyl sulphathiazole was contiued as before.

Diagnosis was established purely on the signoidoscopie findings, excluding lesions proximal to the rectum. Appearances conform to those described by Milligan who has stated that "in the granular form of proctocolitis the appearance of the rectum or colon when viewed through the proctoscope or sigmoidoscope is granular, vivid pink, and moist. It bleeds easily with trauma and the normal branched blood-vessels are no longer visible. Shallow pitting may be present but deep ulceration of the mucous membrane is absent. Discharge on the surface varies from a trace of blood to large quantities of pus, muco-pus, and blood." Milligan takes great pains to distinguish between the granular and ulcerative form, constitutional signs being much more severe in the ulcerative form.

Sufficient time has not yet elapsed in the present cases for an accurate estimate to be made of the value of succinyl sulphathiazole suppositories; but the symptoms and signs have greatly diminished, and preliminary results appear to indiate that this is by far the best and most economic method of applying sulphonamides to the diseased rectal mucosa. The suppository must necessarily come into intimate contact with it and can remain so for twenty-four hours. Sulphonamide retention enemas can at best exert but a temporary effect. Further, the patient need not be kept in hospital after the diagnosis has been established, if the suppositories become the accepted form of treatment.

The recipe for each supository at the Albert Dock Hospital was:

Succinyl sulphathiazole 3 g.
Cacao butter 7 g.

The powdered succinyl sulphathiazole was placed in a warm dish, and half the quantity of melted cocoa butter was added. The two ingredients were stirred to form a smooth paste before the rest of the cocoa butter was added. When poured into the mouls and set, the finished product was a little over 2 in. long and 5/8 in. in diameter.

Since there is no standard metal mould for a suppository of this size, glass tubes were made by removing the ends of test-tubes 5/8 in. in diameter and flaming the rough edges. The tubes were slightly lubricated inside with almond oil and corked at one end. The mixture was poured into the tubes and, when set, the contents were easily ejected with a glass rod. The suppositories are stored wrapped in 'Cellophane' and keep perfectly well at room temperature.

Tin in Typhoid Fever

Patel (*Indian Physician*, **5**:209, 1946) in reporting on the results of treatment of 50 cases of typhoid fever with an organic tin compound 'Aldestan' observes that as compared with 50 control cases treated in the orthodox fashion tin has a definite therapeutic value in typhoid group of fevers as is evidenced by the fact that only 4 cases died whereas 12 died in the control series, the excess of deaths in the latter being due almost entirely to toxæmia and in recovered cases the subjective improvement in the toxæmia was very marked' in all cases of the treated series. Aldestan' is used in tablet form, each tablet containing 0·012 gm. of metallic tin. The usual dose is 0·06 gm. per day for 12 consecutive days for an adult and for children under ten half tablet for each year of age daily. Potassium iodide 25 grains daily for an adult and proportionately less for children should be given along with the drug to enhance its therapeutic effect. The average length of febrile period was not much affected though the fever came down by lysis in 3 to 17 days after starting the drug. Excluding 4 fatal cases there was a favourable response in 32 cases but in 5 of these relapses occurred, incomplete response was observed in 5 cases and no response in 8. It was not possible for the author to observe the effect of the drug on the complications or on the carrier state. Though the drug was tried in a small series of cases the results observed justify its further trial in typhoid group of fevers specially when there is no available specific therapy.

Treatment of Muscular Cramps with Vitamin B_2

Rougues (*Presse Med.*, **55**:441, 1947) in discussing the value of vitamin B_2 in the treatment of muscular cramps cites the results obtained and reported by Perrault, Bouvier and Boulanger (*Paris Medical*, **36**:449, 1946). Following the treatment, of a forty-eight year old man with chronic oxycarbonate poisoning manifested almost exclusively by painful muscular asthenia, who was given vitamin B_2 in dosage of 18 mgm. daily by mouth, and who showed remarkable improvement after the second day's treatment followed by cure after some days, the authors treated a number of patients with muscular cramp of varied origin—diabetes, circulatory disturbances, infections, and diverse cases of intoxication, with equally good results. The usual dosage was 15 to 25 mgm. daily, but higher dosage can be employed without fear of toxic reactions.

Treatment of Lightning Pains

Fowler (*Brit. J. Ven. Dis.*, **23**:90 1947) on the basis of his experience in eight cases recommends the symptomatic treatment of lightning pains by infiltrating the affected skin areas with a local anaesthetic. Both 2 per cent. novocaine (2 to 4 c.cm.) and proctocaine (1 to 2 c.m.) were used, but a more prolonged effect was obtained with the latter. For instance, with novocain the pain returned in one to four hours, whereas with proctocaine relief was maintained for at least two to four days. When the pain struck at a fixed point, the involved area of skin was infiltrated. When the pain travelled from a fixed point, the skin was infiltrated as close as possible to this point. In the case of girdle pains the skin was infiltrated across the path of the pain on both sides of the turnk. When the pain was diffuse, as in the foot, the affected area was blocked by infiltration round the angle. The advantages claimed for this method of treatment are: (1) ease of performance; (2) immediate relief; (3) no need for sedatives; (4) the patient can carry on his work.

Liver and Folic Acid in Nutritional Macrocytic Anaemia

Wemp (*Lancet*, **2**:350, 1947) writes that in 3 cases of nutritional macrocytic anaemia with megaloblastic hyperplasia of the bone-marrow folic acid produced a more rapid improvement in the peripheral blood than would have been expected with large doses of liver extract parenterally and iron by mouth. The bone-marrow resumed a normoblastic pattern.

Penicillin Therapy in Ophthalmia Neonatorum

Sorsby (*Brit. M.J.*, **2**:322, 1947) gives in the following lines the summary of this observation:

In a series of 232 cases of ophthalmia neonatorum 224 were treated by penicillin in several different modes of applications. (*a*) Thirty cases were treated by instillation of watery drops of commercial penicillin in a concentration of 2,500 units per ml. at five-minute intervals initially. The good results recorded previously with a similar series of 25 cases were confirmed. (*b*) Seventy-one cases were treated with the same concentration of penicillin drops instilled at intervals of one minute for half an hour, and subsequently at less frequent intervals. In 19 cases the response to treatment was not good, or there was a relapse; the remaining 52 (73%) cleared rapidly the total time of treatment needed being six to 96 hours, with an average of 33 hours. (*c*) Thirty-three cases were treated with more concentrated drops—10,000 units of pure penicillin per ml. Six cases gave an unsatisfactory response or relapsed, the remaining 27 (76%) cleared rapidly, requiring treatment for from 20 to 72 hours, with an average of 48 hours. (*d*. To obviate the need for frequent applications, oily or solid vehicles containing penicillin were tried out in 51 cases (lamellae in 14 cases, ointment in 12, oily suspensions in 1, and methyl cellulose in 12 cases). The results were unsatisfactory. (*e*) In a final series of 39 cases the initial local treatment was replaced by massive systematic injection (800,000 units in doses of 200,000 units at three-hourly intervals), followed on completion of the course by the instillation of pure penicillin 10,000 units per ml. in 7% methyl cellulose solution at two-hourly intervals. In 33 cases (84·6%) the response was good; in five of these the condition was cleared up by the systemic injections exclusively. The total duration of treatment in these 33 cases was from six to 120 hours, with an average of 46 hours.

Assessed against the causal organism the 30 cases treated by drops of commercial penicillin 2,500 units per ml. instilled initially at five-minute intervals gave four cases that required sulphonamide treatment. Of these four cases three showed inclusion bodies, of which there were a total of 11. Both the cases in this series showing diphtheroids relapsed and required a further course of penicillin.

The 104 cases treated intensively at intervals of one minute showed a total of 25 cases that required sulphonamide treatment because of a poor response. Of these 25 cases 11 showed inclusion bodies and six showed diphtheroids; the remaining eight cases were distributed haphazardly among other organisms, though no failures were observed with staph. aureus, streptococcus, and Koch-Weeks bacilli. There is nothing to suggest that the incidence of failures with diphtheroids could be reduced by an increase in concentration of the drops, but a striking difference was noted in the case of inclusion bodies. Of the 16 cases of inclusion bodies treated by penicillin, 2,500 units per ml., nine gave an unsatisfactory response, while only four out of 15 failed to respond when the concentration was increased to 10,000 units per ml. Only one of the five cases with diphtheroids treated by systemic injection gave an unsatisfactory response; there were three cases with unsatisfactory response out of a total of 17 with inclusion bodies.

The poor responses and relapses recorded in this series are to be understood in a relative sense. A total failure to respond to penicillin treatment has not been observed, and in no case has penicillin treatment failed on influence the condition sufficiently to remove all anxiety within a matter of hours, or less. The optimum mode of use of penicillin is still to be determined, though even now the results obtainable are as great an advance on those of the sulphonamides as these in turn were over the classical methods of treatment.

Hydrothorax in Congestive Heart Failure

White and Others (*Am. J. Med. Sc.*, **214**:243, 1947) write that they have analyzed 100 cases of congestive heart

failure showing hydrothorax at autopsy at the Massachusetts General Hospital.

Fifteen cases showed unilateral right hydrothorax, 13 showed unilateral left hydrothorax. Each one of the latter revealed an important factor in addition to the congestive failure, there being found complete obliteration of the right pleural cavity in 12 and unilateral left pulmonary infarction in the remaining case, in contrast to only 4 such explanations among the 15 cases of unilateral right hydrothorax.

The remaining 72 cases showed bilateral pleural effusions, equal in 31 but preponderantly right sided in 32 of the remaining 41.

The etiologic type of heart disease and the side of the preponderant initial ventricular strain (left *vs.* right) made little difference as to the location of the hydrothorax, but the great majority of these cases at autopsy showed right failure usually superimposed on left.

An additional 100 cases of acute left ventricular failure in hypertension or aortic valve disease were analyzed as to the subsequent occurrence of hydrothorax during the next few weeks; 76 of the 100 showed none, while 16 developed bilateral hydrothorax, 6 unilateral right and only 2 unilateral left; of the 24 cases who developed hydrothorax, only 6 failed to show any recognized sign of right heart failure and it is possible that the venous pressure might, if recorded, have been elevated in those 6 cases also.

Pulmonary infarction (superimposed on or precipitating or aggravating the congestive failure) was found in 30 cases and played a secondary role in the localization of the hydrothorax.

Syndrome of Cerebral Abscess and Congenital Cardiac Disease

Gates and others (*Proc. Staff Meet. Mayo Clinic.*, **22**:401, 1947) writes that the syndrome of cerebral abscess developing in cases of congenital cardiac disease, without bacterial endocarditis, is reported in five instances. These were observed in a group of 115 cases of fatal major congenital anomalies of the heart and great vessels. The types of congenital cardiac disease present in the five cases in which abscess of the brain developed were as follows: cor triloculare biatriatum, one case; tetralogy of Fallot, two cases; inter atrial septal defect, two cases. In each of our cases as well as in those previously reported there existed the possibility of recirculation of venous blood through the systemic circulation. Thus the organisms of a transient bacteriemia would not be completely filtered out in the pulmonary capillaries.

The majority of the cerebral abscesses occurring in cases of this syndrome are solitary, making them potentially amenable to surgical cure.

In the Clinic series of 115 cases of fatal major anomalies of the great vessels the syndrome which forms the subject of this paper occurred in five cases whereas bacterial endocarditis occurred in six cases and endarteritis of patent ductus arteriousus occurred in two cases.

Rheumatic Pneumonia

Selden and others (*Ann. Int. Med.* **26**:496, 1947) write that six cases of active rheumatic fever with carditis, presenting the characteristic pathological features of rheumatic pneumonia, have been studied. A uniform clinical picture was encountered, characterized by an abrupt onset of profound respiratory distress in the absence of commensurate physical signs in the chest. Hacking cough with scanty, blood-streaked sputum, moderate to high fever, and leukocytosis were also present. The disease was manifested roentgenologically by a bilateral, multilobar, non-segmental infiltration which resembles pulmonary edema.

The clinical and roentgenological features of rheumatic pneumonia were observed in five of 100 attacks of active rheumatic fever occurring in 91 patients. No instance of lobar or primary atypical pneumonia was encountered in this series, and pneumonitis secondary to bronchiectasis was found only twice. Rheumatic pneumonias therefore appear to be more frequent than intercurrent pneumonias during the course of active rheumatic fever.

All cases of rheumatic pneumonia observed in this study terminated fatally. Therefore, this manifestation of rheumatic fever would appear to carry a grave prognostic significance.

Vitamin A and Basal Metabolism

Sadhu and Brody (*J. Physiol.*, **149**:400, 1947) write that it is known that as a result of the administration of large doses of vitamin A, basal metabolism is depressed. White rats were studied in an attempt to determine some metabolic and anatomic responses. Heavy vitamin A medication, while allowing normal growth of the rats, depressed their basal metabolism and reduced the weight of their thyroids. The excess vitamin A also depressed the size of the thyroid glands in the thiouracil-treated rats and tended to neutralize the increased metabolic effect of thyroxine injection. While potassium iodide decreased somewhat the metabolic rate of control rats, it did not decrease the metabolism of the thyroxine-treated rats. Partly oxidized, but not fully oxidized, vitamin A reduced the size of the thyroid. Several theories are suggested for the observed effects of excess vitamin A ingestion in depressing the metabolic rate and thyroid size.

Psychosomatic Medicine that every Physician should Know

Alvarez (*J.A.M.A.*, **135**:784, 1947) shows that every physician must know much about psychosomatic medicine if he is to avoid making many diagnostic mistakes, ordering many futile operations, and scaring half to death many organically sound patients.

He must see that many of his patients are ill because of inborn nervousness, constitutional frailness, excessive worry or excessive strain. He must see also that none of the tests on which he so relies for a diagnosis will reveal a neurosis or psychosis or nervous breakdown. There is still great need for taking a good history and for sizing up the patient.

Many discomforts in the thorax or abdomen arise in the brain and are referred out to the periphery. Most of the feelings of chronic fatigue and ill health probably arise in the brain.

It should be remembered that for every one of the million of the insane and the psychopathic there are a number of near relatives suffering from equivalents, such as chronic invalidism, unemployability, alcoholism, vagabondism, criminality, deaf-mutism or bad stammering. Many of these relatives are the so-called chronics who fill the waiting rooms of physicians.

Physicians have long thought insanity was no concern of theirs; today they are beginning to see that from the fringes of the huge reservoir of psychopathy they are getting a high percentage of their most troublesome patients. Today, physi

cians are beginning to see that there is a type of psychiatry that is their concern and which they must practise.

Recently three important points have come home to the medical profession: (1) that a poor nervous inheritance, unhappiness and strain can cause neuroses; (2) that they can bring to light organic disease or cause flare-ups of such disease, and (3) that in many cases of organic disease the symptoms are all those of a complicating neurosis.

A study of consultant practice and the many poor results of abdominal surgery reveals that there is still great need for improvement in the recognition of neuroses and the avoidance of futile laparotomies.

One cannot trust one's ability to diagnose a neurosis or psychosis by exclusion because too many inconsequential findings are disclosed by the examinations. One of the greatest arts needed in medical practice today is that of disregarding findings which cannot explain the symptoms. Every good physician must, willy-nilly, become a psychiatrist. The family physician must more often stick to his impression that the patient is neurotic and the syndrome functional in nature. All physicians need more training in recognizing promptly the common neuroses just as they recognize whooping cough the minute they hear it. They must recognize nervous breakdowns, tired vision, air hunger, hyperventilation, globus, nervous whispering, palpitation, regurgitation, abdominal quivering, repeated belching, heartburn, nervous bloating, the "sore colon" syndrome, nervous diarrhoea, nervous types of pain, the nervous bladder, psychosomatic rheumatism, migraine, the "nerves playing tricks" syndromes and equivalents of epilepsy.

When a physician decides that he is going to give his nervous patients a better deal, perhaps the first thing to do is to decide that he will never again consciously resort to a placebo of diagnosis to get the patient quickly out of the office; he will say either that he does not know exactly what the trouble is or that he thinks that it is functional or nervous in origin.

With friendly, sensible treatment, many neurotic persons can be greatly helped; they can be induced to start rebuilding their lives, and they can be taught to hoard their energies and to become useful citizens again. Some of the best work of this world is done by weaklings, constitutionally inadequate and psychopathic persons who have found a job that they can do—that is within their slender means of strength and that does not involve too much conflict with themselves and others.

Before we can help such persons we must listen patiently to their stories and must learn about the forces in them and their surroundings that cause disturbing conflicts and unhappiness; we must learn about the annoying boss, or wife or mother-in-law or the distressing inferiority complex. We must constantly strive to avoid committing the besetting sin of the would be psychiatrist, which is to talk much and to listen little—to tell the patient what he is thinking and why he is doing what he is doing rather than to ask him what he is thinking and why he is doing things that are foolish.

Advice must always be practical. Our speech must also be simple and colloquial, and we will do well to drive home our points with short illustrative stories. To be sure all of this takes time, but is worth while when, as often happens, we succeed in giving back health and happiness to some previously much puzzled and confused human being. Actually, health-giving psychotherapy often takes much less of the physician's time than would months of futile "shots" or dosing with sulfonamide compounds and penicillin, or trying to combat symptoms when the patient keeps returning disgruntled after a useless operation.

Use of Penicillin in the Treatment of Carriers of Beta-Hemolytic Streptococci among Patients with Rheumatic Fever

Goernor and others (*New Eng. J. Med.*, **237**:576, 1947) say that since there are inherent difficulties in evaluating the innocuousness of a given strain, every carrier of beta-hemolytic steptococci must be considered a potential menace to a population of rheumatic-fever patients. Prolonged isolation of such carriers is advisable from the psychological standpoint and is usually impracticable. Hence, means of abolishing the carrier state are desirable.

Many investigators have found penicillin to be a more effective agent than sulfonamides for the treatment of hemolytic streptococcus respiratory infections. From these reports it also seems that during penicillin therapy hemolytic steptococci disappear from the nose and throat in nearly all cases. After the discontinuation of treatment the organisms have reappeared in a varying proportion of cases, depending apparently on the dose of penicillin and the number of days of treatment.

With a view to preventing the spread of hemolytic streptococci from one patient to another, penicillin has been administered to patients at the House of the Good Samaritan found to have positive throat cultures. Extract of case histories given by the authors illustrate the need for the elimination of beta-hemolytic streptococci from the upper respiratory tract of carriers.

Eighteen chronic carriers of beta-hemolytic streptococci and two cases of acute streptococcal tonsillitis were treated with a total of 1,200,000 units of penicillin each, given intramuscularly during ten days.

In 17 cases the infecting organisms were eliminated permanently from the throat cultures. One Group A steptococcus and two that did not belong to Group A, C or H failed to disappear.

In five cases in which tonsillectomies were performed 125 to 185 days after treatment, the tonsillar fossæ and sectioned tonsils were free from hemolytic streptococci.

In two cases the antistreptolysin O titers did not rise after acute streptococcal infections that were promptly treated with penicillin. Penicillin injections once daily for ten days in slowly absorbable form were observed to be successful in eliminating the beta hemolytic streptococcus carrier state in five or six cases.

The ability to eliminate beta-hemolytic streptococci from the throats of most patients in close contact with persons who have had rheumatic fever suggests a practical method of protecting the latter group from beta-hemolytic streptococcus infection.

It is evident that further observations are needed to ascertain whether prompt penicillin treatment for acute hemolytic streptococcus infections in subjects with rheumatic fever may decrease the likelihood of a recurrence of rheumatic fever.

Menopausal Hypertension

Taylor and others (*Am. J.M.Sc.*, **213**:475, 1947) write that the female menopause, whether natural or artificial, has long been regarded as a cause of arterial hypertension, and the concept of 'menopausal hypertension' has gained wide acceptance. Yet the evidence on which this view is based is largely derived from accumulated impressions rather than systematic study. With this in mind, the authors undertook the care of 200 menopausal women, 179 of whom had been surgically castrated and all of whom desired relief of menopausal symptoms. It was found that arterial hypertension was no more common in this group than in the general population. 'Vasomotor instability,' as exhibit by 'hot-flashes,' perspiration, and tachycardia, are not necessarily associated with hypertension and their alleviation by œstrogens need not effect arterial pressure. The menopause seemed to intensify pre-existing psychoneuroses. Despite severely neurotic behavior, hypertension did not develop within three or more years except in six of the subjects. From these data it is concluded that the relationship of the menopause and hpertension is incidental and loss of ovarian secretion is neither a primary nor a contributory cause of arterial hypertension.

Penicillin and Menstrual Disturbances

McLachlan and Brown (*Brit. J. Ven. Dis.*, **23**:1, 1947) in a series of 216 non-pregnant women receiving treatment for venereal disease, and observed for a minimum of four post-therapeutic cycles, found menstrual cycle sequelae in 91·3 per cent. of cases. These sequeale included alterations in the length of the menstrual period and in the amount of menstrual loss. The occurrence of menstrual clotting for the first time was noted in 12·1 per cent. of patients. Premenstrual and menstrual dysmenorrhoea was induced in approximately one-third of the cycles, whilst some 10 per cent. of patients normally subject to dysmenorrhoea, experienced temporary or permanent relief. The mittelschmertz phenomenon was noted in 8 patients who had never previously experienced it. Among 32 pregnant women treated with penicillin, uterine cramps occurred in 12, three of whom also experienced uterine bleeding. The cramps usually occurred on the first day after the second or third injection of penicillin. The bleeding was never severe. Labour occurred in five patients, and in one of these it followed immediately upon uterine cramps initiated by penicillin in the seventh month of pregnancy. Alterations in the lochia were observed in 12 out of 16 puerperal patients receiving penicillin during the first fortnight of the puerperium. In the same series of puerperal women lactation was diminished in twelve women during the period when penicillin was being given and in 25 per cent. Of these cessation of lactation was permanent. "It is believed that these phenomena are caused by the penicillin available to us or to the impurities inseparable from the process of manufacture. That the latter hypothesis is the case is suggested by the decreasing frequency in recent months of such reactions, despite greatly increased penicillin dosage, and by the absence of sequelae in two patients treated with pure penicillin.

Celiac Syndrome

Anderson (*J. Pediat.*, **30**:564, 1947) writes that the classical picture of celiac disease is believed to result from a deficiency of multiple nutritional factors complicating and resulting from basic constitutional disease. The steatorrhea of celiac disease is transitory and, with intensive vitamin and dietary therapy, it disappears within two months; it is viewed as a complication of celiac disease due to a specific deficiency. A consistent and objectively demonstrable characteristic of the basic disease is a deficiency of pancreatic amylase, associated with excess starch in the feces when starch is fed, and clinical intolerance to dietary starch. In uncomplicated cases the first symptom is the occurrence of repeated bouts of diarrhea with large, foul, pale, foamy stools and an enlarged abdomen. These bouts are usually initiated by an upper respiratory infection. The symptoms respond to a diet high in protein, low in starch, and abundant in vitamins. An attempt is made to evaluate other phenomena of the disease with respect to whether they are part of the primary defect or a result of secondary nutritional deficiency. There is suggestive evidence that the difficulty in protein metabolism, shown by the high requirement for dietary protein and a tendency to hypoproteinemia on a normal diet, may be an expression of the basic disease.

Treatment of Asthma in Childhood

Ratner (*Med. Clin.* North America, May 1947, p. 537, Ref. *Practitioner*, **159**:233, 1947) in discussing the choice of drugs in the treatment of asthma in children made the following observations: A child should never be given an injection of adrenaline of more than 2 or 3 minims (0·12 to 0·18 c.cm.), and this should be given subcutaneously or intradermally; it should never be given intravenously or intramuscularly. The objections to larger doses are that they are liable to cause (a) further bronchiolar constriction; (b) an enhancement of apprehension; (*c*) acceleration or the pulse; (*d*) rise of blood pressure; (*e*) headache (*f*) cardiac syncope; (*g*) pallor. There is no point in using adrenaline in oil. Inhalations of adrenaline should be deprecated because they lead to habit formation and overdosage. Ephedrine whether prescribed for oral administration or as nasal drops, should only be prescribed for individual attacks and for a limited number of doses. If in a given case there is no response to injections of adrenaline, syrup of ipecacuanha is recommended in emetic dose; ½ to 1 teaspoonful for infants and young children; if this dose does not produce emesis, then 2 teaspoonful are given. For older children and young adults, repeated doses are given until emesis results. "If this therapy is effective, the result is brilliant because relief from distress follows quickly upon release of the plugs". The use of morphine in asthma is considered to be "little short of criminal" as it inhibits the respiratory centre and causes borncho-constriction. Aminophylline is considered to be of value, but less valuable than in adults. It should be given intravenously or intramuscularly. Benadryl and pyribenzamine are not recommended as they are liable to excerbate the condition. Histaminase is not considered to be of value. After the attack a salt-free diet, high in carbodydrate should be given, with plenty of fluids.

Respiratory Difficulties in the Newborn

Nearly an eighth of the deaths in the neonatal period are ascribed in Great Britain to "asphyxia during or after birth" or to "atelectasis." Any information which will help to reduce this figure is, therefore, welcome. Gruenwald (*Am. J.*

Obst. & Gynec., **53**:996, 1947) of Brooklyn, has studied surface tension as a factor in the resistance of the lungs of newborn babies to aeration, and he suggests a way in which this surface tension might be reduced. He starts from an observation which indicated that whereas in the lungs of stillborn infants all the alveoli are usually uniformly expanded with fluid, in many liveborn infants who have breathed for a few hours or days areas of complete atelectasis alternate with aerated areas for days after birth. The importance of aspiration of amniotic fluid has been stressed in recent years by many writers. Gruenwald takes the view that the normal foetal lung is atelectatic and that the expansion of the alveoli with fluid is the result or episodes of anoxia. Here is the first practical point—the supreme importance of preventing anoxia at or near term, not only for its disastrous action on the nervous system but also because of its effects on the aeration of the lungs.

In the present discussion on the relief of pain in childbirth this danger of anoxia must not be forgotten. But Gruenwald went on to determine why it was that normal entrance of air seemed often to be relatively inficient. He devised a simple apparatus to expand at necropsy the non-aerated lungs of newborn or stillborn infants with fluid and with air. The fluid was 0·85 per cent. saline with a small amount of Indian ink added so that expanded areas could easily be seen by their dark colour. The fluid was introduced through rubber tubing, and a glass cannula was inserted through the main bronchus into one of its branches. In 15 cases tested with up to four recordings for fluid and the same number for air, using very small portions of the lungs for each meausrement, a much greater pressure was always required to introduce air than fluid. The average relation of pressure of fluid and air was 1 to 2; the smallest difference recorded was 1 to 1·3 and the largest 4·3. The explanation offered for this difference is that surface tension counteracts the establishment of the very large area of contact between a fluid surface *i.e.*, the moist alveolar wall—and air, whereas surface tension will not resist the entrance of fluid. The next step was to modify the experiment by using amyl acetate to lower the surface tension; this was either mixed with the air used to test the pressure requirtd to introduce into the lungs, aspirated, and followed by pure air. The pressures required to introduced air showed a definite reduction when amyl acetate was used, amounting to nearly half the difference between the values for pure saline and air. When amyl actate was used the aeration was also more diffuse than usual.

The practical application of Gruenwald's observations is that substance to reduce surface tension might be usefully introduced into the respirator or other apparatus used to administer air or oxygen to newborn babies.—Lancet, **2**:516, 1947.

Infections of the Skin of the Scalp in Childhood

Fergusson (*Practitioner*, **159**:55, 1947) in a series of 50 cases of scalp infections found that pediculosis capitis and abrasions were additional responsible factors in 27 cases and injury in 6 cases. The juvenile scalp is more susceptible to the attack of pyococci and the general standard of scalp hygiene is lower in children. The exact type of eruption produced depends on the particular organism or organisms inoculated through the abraded skin and the state of the sebaceous mechanism of the scalp. The organisms in these cases were *Streptococcus pyogenes, Staphylococcus pyogenes aureus* and *Staphylococcus albus*. In the presence of abnormal dryness or greasiness of the scalp the so-called seborrhoeic" organisms (*Pityrosporn* of Malassez and *Staphylococcus epidermidis albus*) were found in considerable numbers.

Symptomatology varied according to the etiological groups. In the first type there was an initially vesicular and subsequently crusted process, the crusts being honey-coloured and the lesions irregular in size and shape and of discrete character. The eruption was clinically one of impetigo contagiosa. In the second type the eruption was composed of small follicular pustules, each pierced by an individual hair, the lesions being discrete and of similar size throughout. In the third type there was a confluent, oedematous, papulo-pustular eczematous eruption with much superimposed yellow crusting and scalling, cultures from which gave a mixed growth of pyogeoic and seborrhoeic organisms. This was invariably present in cases in which there was a clear history of previous disorder of the sebaceous glands of the scalp as denoted by the presence of 'dandruff'. In remaining cases the eruption was made up of small vesicular pustules arranged in widely scattered groups upon livid of erythematous bases. The lesions were very superfically set in skin and apparently were unrelated to the hair follicles. This was an example of pustular eczema. The contents of the pustules were found in all instances to be sterile. In association with the scalp affections there appeared on the badies of the patients eczematous eruptions and these varied according to the type of the lesion on the scalp. In association with folliculitis there was eruption beginning as a mild erythema, passing through a papulo-vesicular stage and finally becoming patchily lichenified due to scratching. This was present on the skin of the nape of the neck, acromial and deltoid regions, sacral area and abdomen. With infectious eczematoid dermatitis there was an aoute secondarily infected and eczematized process of similar appearance to original focus in the posterior auricular, axillary and groin folds.

For the treatment for impetigo the author recommends frequent applications of 0·5 per cent. sulphur in calamine lotion, for three or four days. Then removal of the inspissated crusts followed by the use once daily of a 1 per cent. ammoniated mercury paste or ointment. For fallicular infections he suggested 1 per cent. each of malachite green and corrosive sublimate in spirit as a paint, twice daily. In infected eczematous eruptions initial four-hourly boracic acid fomentations, followed after twenty-four to thirty-six hours by moist applications of liniment consisting of:

Ichthyol 120 grains, calamine 180 grains, linseed oil and lime water each 4 ounces.

This is to be changed night and morning. For chronic conditions he recommends application of crude gasworks tar as a paint, twice weekly. For pustular eczema which is most resistant to treatment a careful search for endogenous foci of infection should be made and these must be eradicated. Locally he suggests 1 or 2 per cent. solution of silver nitrate in spirit, twice daily, or Ruggle's mixture which consists of salicylic acid 2 parts, tannic acid 10 parts, and alcohol to 100 parts which should be applied once or twice daily.